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ABSTRACT

This publication is a compilation of twenty-four studies on Asian experiences with new educational techniques for preparing educational personnel in response to demands for the universalization of education. Ten of the studies were originally presented at a study group which met in Bangkok, Thailand, in the fall of 1978. These studies have been supplemented by case-study reports drawn from the national advanced-level workshops for teacher educators in member countries, inventories of educational innovations, and contributions by individual authors. These case-studies are grouped into three categories: (1) open learning and distance teaching; (2) programmed learning and microteaching; and (3) other new education techniques. The categories help to delineate some major trends as countries in the region explore ways and means to make their teacher education systems responsive to their particular ecology, socioeconomic status, and aspirations. This publication forms a part of a series by means of which the Asian Centre of Educational Innovation for Development is disseminating information about current educational innovations in countries in Asia and Oceania. (Editor/JD)

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ASIAN PROGRAMME OF EDUCATIONAL INNOVATION FOR DEVELOPMENT **APEID**

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UNIVERSALIZING EDUCATION :
SELECTED INNOVATIVE EXPERIENCES

new techniques for preparing educational personnel

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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UNESCO REGIONAL OFFICE FOR EDUCATION IN ASIA AND OCEANIA
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UNESCO REGIONAL OFFICE FOR EDUCATION IN ASIA AND OCEANIA
Bangkok, 1980

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PREFACE

This publication is a compilation of 24 studies on Asian experiences in new educational techniques for preparing educational personnel in response to urgent demands for the universalization of education. Ten of the studies presented here were originally presented by their authors at a Study Group on the Use of New Educational Techniques for Preparing Teachers and Other Educational Personnel, with Reference to the Universalization of Education. The Study Group met in Bangkok, Thailand, from 26 September to 7 October 1978 at the invitation of Unesco's Asian Centre of Educational Innovation for Development (ACEID), Bangkok, Thailand. These ten studies have been supplemented by case-study reports drawn from the national advanced-level workshops for teacher educators in Member countries, inventories of educational innovations and contributions by individual authors.

The publishers of this book do not claim to present here a representative sample of the total range of experimental endeavours in the region of Asia and Oceania through which alternatives are being explored on the preparation and improvement of teachers and other educational personnel. The programmes and projects described do however represent efforts arising from an awareness of certain needs and problems on the preparation and further training of teachers and other educational personnel with reference to the universalization of education in the different socio-cultural contexts of these countries.

Past efforts and traditional approaches used in education have produced a plateau in the global search to attain higher levels of development. Exploration of newer avenues and techniques in education is called for. Co-operative endeavours by those concerned respectively with education and development have uncovered a rich reservoir of ideas and innovations from which developing countries may draw, so as to stimulate new efforts toward the attainment of their respective national development goals.

These case-studies have been grouped into three categories according to the broad goals that the experiments described therein attempt to reach. Inevitably there are cases which could be placed in more than one category. The categories, however, help to delineate some major trends as countries in the region explore ways and means to make their teacher education systems responsive to their particular ecology, socio-economic status and aspirations.

This publication forms a part of a series by means of which the Asian Centre of Educational Innovation for Development is disseminating information about current educational innovations in countries of Asia and Oceania. The contributions of the authors who provided the material for this compilation are acknowledged with gratitude. Thanks are also due to Mrs. Efigenia Occena and Mrs. Paquita Gavino who made a preliminary editing of the manuscript.

SECTION ONE

OPEN LEARNING AND DISTANCE TEACHING

MALAYSIA
DISTANCE TEACHING: IN-SERVICE PROGRAMME FOR TEMPORARY UNTRAINED TEACHERS

by

K. Jegadeva

Background information

In Peninsular Malaysia, Sabah and Sarawak there are 26 Teacher Education Colleges which provide two-year full-time courses for the College Teachers' Certificate. Teachers trained under this programme are posted to primary and lower secondary schools i.e., from grades I - IX. Because of the acute shortage of trained teachers there are almost 15,000 untrained uncertificated temporary teachers many of whom have been teaching for two years and more. In order to assist these teachers by providing them with the means of obtaining a teachers' certificate, the Ministry of Education has been conducting three-year courses during holidays for selected groups at several centres and at 16 colleges.

Since 1973 the teacher training programme has been rapidly expanding with substantial increases in both enrolment and staffing in the present 26 teachers' colleges in Malaysia. Simultaneously with this programme some of the same college staff are involved in conducting the courses for the temporary teachers during vacations.

The temporary teachers' courses

These courses are for temporary uncertificated teachers in primary and lower secondary schools with at least two years continuous teaching experience. Spread over three years, the programme is telescoped into 24 weeks of vacation courses covering eight weeks per year i.e., two weeks each April and August and four weeks in the November/December vacation. This scheme, therefore, gives 24 weeks' study for the temporary teachers' course in contrast to 60 weeks of lectures for the two-year full-time college courses. As compensation for this disparity the temporary teachers have more classroom experience as they have a full-time teaching load.

There are, however, two main weaknesses in the vacation course system. The first is the heavy concentration of lecture time during the vacation, which is still insufficient to complete the syllabuses of various subject areas. The second is the lack of personal contact between the lecturing staff and the trainees during the school terms. This means that the lecturing staff conducting the courses are not able to observe their students to ensure that their theories and methods are actually being tried.

Project objectives

Overall objectives of the project:

There is a need to reduce the existing imbalance between the teaching load for the regular two-year course and the temporary teachers on the vacation courses. Every syllabus has within it important topics that form the essential core and these topics must be given by the college lecturers themselves during the vacation courses. The various syllabuses for the temporary teachers' courses have been adapted so as to ensure that the essential core of regular courses 'must be done' during the vacations. The areas that 'should be done' have to be given through supplementary programmes during the school terms, and suggested reading matter on the areas that 'ought' to be done is left for the trainees to read by themselves.

The overall objective of the project is to ensure that the teacher training courses for the temporary teachers is of the same standard as that of the regular two-year course, and that at the end of their three years of vacation courses and through supplementary programmes provided during the school terms, these trainees will be prepared for examinations equivalent to those taken by the regular course candidates.

Specific objectives of the project

1. To prepare supplementary curriculum materials in the form of
   a) printed notes and
   b) recorded tapes or cassettes.

These materials are to be distributed to trainees through the post.

2. To direct temporary teacher trainees to view current Educational TV (ETV) lessons that are beamed on the national network, in order to critically observe, comment and assess the teaching methods used in the lessons with the help of specially prepared guides.

3. To adapt from past ETV lessons new ETV programmes to illustrate specific teaching techniques.

4. To form teacher centres at suitable locations depending on the concentration of temporary teachers so that trainees can meet during week-ends for tutorials or discussions with some of the staff of the colleges that conduct the vacation courses.

5. To make use of the Educational Media Service in the teaching of Bahasa Malaysia and English to the trainees.

Project implementation

The project is to be launched in three phases:

Phase I: September/October 1977

The pilot scheme is to be carried out involving trainees in southern Kedah, the State of Penang, and northern Perak. These trainees will be given approximately 600 specially prepared notes and lesson tapes. This will be followed up by discussions and tutorials with training college staff during week-ends at suitable selected centres.

Phase II:

This will be conducted on a larger scale from February to October 1978. The project will be extended to other parts of Malaysia and will involve most of the trainees who are in the first and second year of the courses. ETV programmes and other specially adapted package programmes will be made use of during this phase.

Phase III:

Phase III will see the project fully launched. Lasting from February to October 1979 it will involve all groups of trainees from the first year through to the third year of the course.

The staff of the training colleges will be involved as members of writing teams in the various subjects where notes and recorded tapes have to be prepared. The organizers of the temporary teachers' courses at the various centres will be the key personnel involved in establishing the writing teams, distributing the prepared materials and supervising the assessment of the assignments given to the trainees during the term time. Initially, the Universiti Sains Malaysia will assist in the printing of the prepared materials as they possess a well-equipped printing department, offset presses and other rapid multi-recording systems for tapes.

Project co-ordination

Initially, the centre for co-ordinating the activities of the programme will be at the Malayan Teachers' College, Penang. The project co-ordinator will be responsible for arranging and co-ordinating the various activities with the co-operation of the organizers of the temporary teachers courses at the various centres throughout Malaysia. The project co-ordinator will be required to see that the prepared programmes are ready in time for distribution to the various centres and arrange for tutors to visit the various centres during week-ends to conduct tutorials and discussion groups. The project co-ordinator will work in close co-operation with the various writing teams which will prepare notes, recorded lessons and teachers' guides.

Organizers of the in-service courses at the various colleges will receive the prepared notes, tapes and cassettes, and guides, and distribute these to the temporary teachers. Each organizer will, with the assistance of a clerk, keep and maintain a record of the distribution. He will receive comments and problems from the tutors who visit the various centres where the students are and he will receive the assignments completed by the students. The assessments that are given by the tutors will be recorded by the organizer of the vacation courses.

Duties of the tutors

The tutors will have the following duties:

1. To visit the centres according to the programme organized by the project co-ordinator;
2. To discuss with the temporary teacchers the various problems that they have regarding their courses, their teaching and the use of teaching aids; and
3. To bring the problems of teachers to the attention of the project co-ordinator.

Duties of the writing teams

The writing teams are responsible for the writing of lectures, scripts for recording onto cassettes, and guides for the observation of ETV lessons as arranged by the project co-ordinator. When members of the teams visit the learning centres, they are required to answer problems and difficulties that are faced by the temporary teachers.

Temporary teachers

The temporary teachers are required to meet periodically at the centres to complete the assignments given to them and to return the cassettes that have been distributed to them.

Assistance from the Universiti Sains Malaysia

The project co-ordinator is required to work closely with the co-ordinator of the offset Campus Programme of Universiti Sains in order to arrange for the printing, recording, and possible adaptation of the ETV programmes.

MALAYSIA:
THE EDUCATIONAL MEDIA SERVICE

by
V. V. George

The concept of universalization of education

In Malaysia, universalization of education, at present, is regarded as the provision of nine years of education for all pupils who want it, and the expansion of upper secondary education especially aimed at the lower income groups, rural and disadvantaged groups.

Alternative structures

1. The existing formal system

Six years of free primary education are provided for all children between the ages of 6 and 11. This is followed by an additional three years of comprehensive education at the lower secondary level, making a total of nine years of universal education. At the end of the ninth year of schooling, pupils sit for the Lower Certificate of Education (LCE) and move on for a further two years of either academic or vocational schooling. At the end of five years of secondary schooling pupils sit for the Malaysian Certificate of Education (MCE) and proceed to two years of post-secondary schooling and then to a university.

Since Independence in 1975, striking progress has been made in all levels of education. The enrolment ratio of the school age population at primary level is 94 per cent at lower secondary level, 76.6 per cent, and upper secondary level, 36.8 per cent. The Third Malaysia Plan (1976-1980) calls for further expansion in education especially at the secondary levels and for the lower income groups and regions.

2. Alternative structure being attempted

Against the background of pressures in education such as burgeoning enrolments, curricular inadequacies and shortage of teachers, various projects and schemes have been introduced by the Ministry of Education. One such alternative system or structure introduced in 1972 was the Educational Media Service (EMS) project in particular the introduction of educational television for schools and its integration with the ongoing schools' radio service and audio-visual aids service.

The main objectives of the EMS are as follows:

1. Strengthening the national education system by reducing imbalances and improving educational opportunities in rural schools which are handicapped for lack of qualified staff and equipment:

2. Improving the quality of education by demonstrating good teaching methods and providing additional audio-visual materials;

3. Assisting in curricular reforms through speedy and effective delivery;

4. Improving survival rates at all levels by motivating pupils through interesting programme materials such as audio-visual aids and enabling teachers to devote more time to individual students in large classes;

5. Assisting in the teaching of subject areas, where trained teachers are in short supply e.g. science, mathematics and technical and vocational subjects;

6. Promoting civic consciousness and national unity through civic programmes at both the primary and secondary levels and through the use of Bahasa Malaysia following the phased introduction of Bhasa Malaysia in English language medium schools;

7. Disseminating information of educational interest to parents and keeping teachers up-to-date on curricular innovations and practices; and

8. Assisting in teacher training programmes, both pre-service and in-service, through the employment of new media techniques.

Management

The Education Media Service was set-up as a division of the Ministry of Education. It consists of three sections: an educational TV (ETV) section, an educational radio section and an Audio-Visual Aids Section, with a common administrative unit consisting of a utilization and evaluation unit, and a printing unit.

In addition to the professional, administrative and technical staff at the headquarters, the EMS also has a supervisor at each of the 11 states in Peninsular Malaysia and a small EMS-type unit in Sabah and Sarawak.

The broadcast service

The EMS plans and produces Educational Radio and TV programmes for schools. The ETV telecasts include programmes on science, mathematics, Bohasa Malaysia, English language, basic commerce, civics, history and a special series for teachers and parents. The educational radio service coverage is mainly of the humanities such as languages, geography, history and music. ETV has more than 30 series at present and radio more than 64 series for pupils from standard 1 in primary up to Form VI at the post-secondary levels.

The programmes are broadcast over the national TV and radio networks from 7.40 a.m. in the morning to 5.00 p.m. in the evening, four days a week. To ensure that the schools receive the programmes, 5,500 TV sets, 2,500 petrol-driven generators (for schools without electricity) and 2,000 Radio cassette-recorders (an additional 5,000 for Peninsular Malaysia to be supplied soon) have been supplied to schools by the Ministry of Education. In-service courses have been and are still being conducted for teachers at local levels, to facilitate the proper utilization of the media programmes. Timetables and teacher guides are sent out to schools in advance on a regular basis.

Environment and interaction

The EMS serves all the 6,334 primary and 941 secondary schools in the country. The target school population is approximately 2.7 million pupils, covering all areas of the country. The service also covers pupils not in school, adults as well as the teachers.

The EMS was set up to help correct the urban-rural imbalance in educational opportunities, assist in curricular reforms, motivate pupils, promote national unity through civic and national language programmes and assist in the training of specialists and teachers.

Interaction

The EMS of the Ministry of Education works in close co-operation with the Department of Broadcasting and the Department of Telecoms. The EMS produces all the software, the broadcasting department provides the studios and all technical facilities, and the telecoms department handles transmission of the ETV programmes.

In the preparation of the software materials and programmes, the EMS works closely with the National Curriculum Development Centre, the Federal Inspectorate of Schools, the Teacher Training Division, practising teachers and outside agencies and institutions. For its training needs, it works with AIBD/IPTAR of the Ministry of Information and the Educational Technology Unit of the Universiti Sains Malaysia.

At the ground level, state EMS supervisors visit schools regularly and conduct courses for teachers. When funds are available, producers and EMS staff at headquarter level visit schools for personal interaction with actual users i.e. teachers and pupils.

Evaluation

An evaluation of a formative type has been conducted since the project was established in 1972. in addition, annual surveys on utilization are carried out and the response so far has been encouraging especially at the primary level and in rural schools (about 60 per cent). Utilization at the secondary level is inadequate (about 30 per cent).

A summative type of evaluation has been initiated in the form of a pre-test and a post-test and it so far shows learning gains. An in-depth study of the project has not been done yet, but is being planned for the future. Schemes for improved utilization, such as special one-day workshops for headmasters, promotional campaigns and increased visits to schools, are being planned for and undertaken.

In addition to assistance to pupils in the formal school system, the EMS, especially its ETV and Educational Radio services, has assisted pupils and adults outside the school system. Numerous enquiries and requests from such groups for teacher guides, time-tables etc. are received continually at the Educational Media Service headquarters.

Problems – strategies and solutions

Some of the major problems and difficulties encountered so far are listed below:

1. difficulty of time-tabling;
2. Difficulty of fitting programmes into teacher schedules;
3. Shortage of TV sets in big schools;
4. Shortage of staff at field level;
5. Negative attitude of headmasters and teachers;
6. Shortage of good scripts and scriptwriters;
7. Poor reception in certain areas;
8. Shortage of air time; and

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9. Shortage of funds for teacher guides and school visits by staff.

Some of the strategies being planned to overcome the difficulties encountered so far are listed below:

1. More promotion and contact with the users;
2. Study of the use of audio cassettes and video-cassette recorders, especially for secondary schools;
3. Increase of staff at state levels; and
4. Organization of script writing courses

THE PHILIPPINES:
OPEN PROGRAMME, UNIVERSITY OF MINDANAO

by

Efigenia C. Occena

Introduction

The University of Mindanao in Davao City, Philippines, operates two programmes which were designed to meet the needs of the region by providing equal opportunities for obtaining higher education and for continuing teacher education at a cost within the reach of the low-income groups in order to contribute to the national drive to attain full universalization of education.

The first programme is the University on the Air which offers graduate courses in education leading to the degree of Master of Arts in Education and Master of Arts in Teaching. The details of this programme will be discussed in the next article.

The second is the Open Programme which offers undergraduate courses leading to the Bachelor of Science in Elementary Education, or to any bachelor's degree available in the programme.

Situation analysis: Mindanao area

The development of the Open Programme was a response to the urgent needs of the area. The problems of Mindanao have been brought about by several situations. Among these are the following:

1. The rapidly spiralling cost of living which has increased the expense of education. As a result only the affluent families have enough financial resources to send their children to colleges to the exclusion of the children of low-income families.

2. The new regulation of the Ministry of Education requires a Bachelor of Science in Elementary Education degree as the minimum qualification for appointment as a public elementary teacher.

This requirement has imposed added financial responsibilities on teachers who have earned only their Elementary Teachers' Certificates. They were required to go back to college to earn their bachelor's degree, a situation which strained their financial resources. Many were unable to do so; consequently they were excluded from salary increases.

3. Teachers receive much lower salaries than people working in business and industry. This fact places the teachers at a disadvantage. Their salary has become insufficient to meet the demands of adequate living. Going back to college to earn additional qualifications is often beyond the financial capacity of most of them. As a result, teachers seek transfers to other jobs.

4. There is growing percentage of drop-outs from college among the children of low-income families. Many students enrol for college, but later are forced to drop-out for lack of funds to allow them to continue. Dropping out is a very expensive action on the part of the students, and for the colleges, which hire teachers at the start of classes for the number of students who have enrolled.

Directly or indirectly these situations have resulted in the shortage of elementary teachers, thereby posing a threat to the early realization of the national goal to provide elementary education for all. New approaches have to be explored to reduce the cost of education for teachers and those who aspire to be teachers.

The operation of the Open Programme, designed to bring education out of the classroom into the homes of students at a much reduced cost, is one answer to the demands of the situations described.

Features of the Open Programme

The unique features of the Open Programme are:

1. Students work at home independently accomplishing the requirements of the course for which they are enrolled.

2. Students taking the same courses meet once a week, on weekends, to conduct group discussion. These discussions are held in convenient places with a student acting as group leader on a rotation basis.

3. The instructors visit the centres at least once a semester to confer with the students.

4. The students go to the university campus to take their final examinations.

5. The approach is through Instructional Modules which are lent to students.

Format of Instructional Module

These are a planned series of learning activities designed to help the learner accomplish certain specific objectives. The Instructional Module (IM) is also often called a Learning Activity Package (LAP) or Learning Module (LM). Its purpose is to individualize instruction to enable learners to identify objectives, progress at their own rate, and in their own learning style, identify their strengths and weaknesses and recycle their knowledge when the objectives have been achieved. The IM consists of:

1. Objectives which : a) come first so that the learner will know what will have been accomplished upon completion of the module;
    b) spell out behaviours and performance toward which the learner works; and
    c) state specifically what the learner is expected to do. They are always stated from the learner's point of view.
2. An abstract which : a) gives a quick overview of the contents of the module;
    b) provides a mind-set or advanced organizer;
    c) gives the opportunity to get technical terms straight before the learner takes the pre-test; and
    d) establishes the value of the module by providing explicit reasons (learner-motivated) for the module.
3. A pre-test which : determines the ability of the learner to meet the required performance standard. It also determines the readiness of the learner to proceed with instructional interaction. Test items are drawn directly from the objectives. Immediate responses to the pre-test are highly desirable.

4. Instructional alternatives which: form the heart of the Instructional Module, where effort is made to really individualize instruction. These provide options to allow the learner to select the most appropriate route to follow in accomplishing the objectives. It is important for the instructor to prepare at least two alternatives for this section of the module.

5. A post-test which: measures the learner's performance compared to performance criteria named in the objectives. Learners take the post-test whenever they are ready; information on results must be provided immediately, to give learners the opportunity to evaluate their own progress.

6. Resources which include:
   a) references to all materials and equipment necessary to complete the module;
   b) any optional items suggested, or references to the IM, such as: (1) readings, (2) slides and tapes, and (3) filmstrips or films.

The philosophy of the Open Programme

The Open Programme is based on the following concepts:

1. Education is not carried on exclusively in the classroom. It occurs in homes, offices, or wherever there are students who actively desire to search for knowledge.

2. Education is self-activity. In one sense of the word, no person can teach another: one can only teach oneself.

3. Opportunities for higher education should be equalized and opened to all who have the desire and the ability. This opportunity should be extended especially to the disadvantaged sectors of society.

4. Students should be allowed to progress at their own rate—they should not be held back, or urged on.

5. There should be an alternative for those students who must leave college because of financial problems. It should be possible for education to be carried on even when out of contact with the classroom.

The Open Programme was started on a limited scale on an experimental basis. There have been three phases:

Phase I was initiated in 1974. It was primarily intended for those teachers in the service who had the two-year Elementary Teacher Certificate. The aim of this phase was to give them the opportunity to take additional courses which would complete the academic qualifications necessary for their teaching positions.

Phase II was initiated in 1977. The aim of this phase was to extend the programme to the potential college drop-outs and students who could not afford the college courses in the campus setting. General education courses common to all college curricula were added to the phase one courses.

Phase III was initiated in the first semester of 1978. This phase extended the programme to company employees of industrial plants far from college campuses. The aim of this phase was to give opportunities for improvement to those already working with low qualifications. Their inadequate qualifications prevented them from advancement in the company. With the opportunity for enhancing their qualifications within their reach, the prospect for future advancement became possible.

Evaluation of the experimental phase

In 1979, the research department of the university will conduct a follow-up study of the participants in order to determine the degree to which the objectives of the programme have been realized.

On the basis of the findings the university will expand or stop the Open Programme. The evaluation will determine whether:

1. The cost of education to the students has been cut by at least 50 per cent of the normal cost;

2. Participants have obtained advancement in rank and salary in their line of work; and whether

3. Seventy per cent of holders of the Elementary Teacher Certificate have obtained B.S. Ed. degrees.

A positive answer will mean the realization of the objectives of the Open Programme.

Preparation of instructors for the Open Programme

Instructors of the Open Programme have the same qualifications as those teaching in the regular programme. They undergo however, special training in certain aspects of the Open Programme, such as:

1. The preparation of the modules or learning packages, each containing 50 lessons representing the 50 class hours attendance required of regular students by the Ministry of Education and Culture.

2. Preparation of schedules of conferences with students and of examinations.

3. Evaluation of work submitted by students, giving of final grades, and counselling of students.

4. Recording and posting of grades for the college records.

The training of instructors for the Open Programme involves attendance for 20 hours at special workshops conducted during semester breaks. The training is under the leadership of the co-ordinator of the Open Programme who has been selected because of special qualifications in the relevant areas.

Procedure for students

1. Qualified students enrol in the university during the regular enrolment period, and pay the same fees as regular students.

2. The students attend the orientation meeting scheduled for their subject.

During this orientation meeting, they receive Instructional Modules, conference schedules, examination dates, and lists of other requirements.

3. The students sign an agreement or contract with their instructors. The contracts specify the amount of work they intend to do and the grade for the work contracted upon completion of requirements.

4. The students, equipped with their learning package, study independently, giving one hour of study every day for each of the 50 lessons required in each subject. The adequate completion of the exercises in these lessons is accepted in lieu of attendance in the classroom. When students come to the campus they have the option to attend regular classes.

Students in the same locality enrolled in the same subjects meet on week-ends to discuss the lessons and exchange opinions on the lessons for the week. Leadership in these discussions is rotated among the students. An instructor may be present to monitor the group or evaluate its progress when possible. At present, students of the Open Programme are required to come to the campus for the scheduled examinations, until the University can design a system by which students can take the examinations wherever they are.

Students enrolled in the regular programme may shift to the Open Programme when circumstances prevent them from attending classes regularly. This enables them to continue their studies instead of dropping out.

Administration

At present the administration of the programme is made very simple. It is treated as a separate college within the university. The personnel is composed of the co-ordinator, who is also the administrator, the instructors, who are involved in the service on a part-time basis, and clerical staff. The management services of the university which are available to other colleges are also used by the programme.

Financing

The programme is self-sustaining financially. Tuition paid by the students covers the cost of honoraria for personnel and travel to centres. Instructional materials are paid for at production cost by the students.

The curriculum

The participants in the Open Programme follow the same curriculum as the regular students and take the courses on a semester basis. This requires 50 hours of work for each subject. The subjects so far included in the Open Programme are in the fields of communication arts, the humanities and social studies and are described overleaf.

Subjects	Description
English 1	Communication Arts (English)
Pilopino 1	Communication Skills (Reading, Grammar and Composition)
Spanish 1	Elementary Spanish
Sociology 1	Introduction to Sociology
History 1	Philippine History
Psychology 1	General Psychology
Philosophy 1	Ethics (Including Moral Regeneration & Social Reform)
Economics 1	Principles of Economics
Political Science 5	The New Constitution of the Philippines
English 30	The Life and Works of Dr. Jose Rizal

Science courses requiring laboratory work will be taken on campus during summer vacations.

Some professional subjects in education are offered to teachers in the service. Expansion of the Open Programme in the future however, envisions the inclusion of business and management subjects leading to the Degree of Bachelor in Business Administration.

Evaluation of student achievement

Students in the Open Programme are marked according to the same system used in the campus-based classes, but the components of the marks are different. The marking system ranges from 1 = 'excellent' to 5 = 'failed'. Open-Programme participants are rated on two aspects of performance – written reports worth 50 per cent, and two written examinations also worth 50 per cent which are administered on campus under the direct supervision of the instructors.

The reports are based on three categories of work which the student has agreed to perform. Category One requires performance of work on the minimum essentials of the course. Satisfactory performance will qualify the student to take Category One examinations which will give a grade range of 3.5 to 2.4.

Category Two requires augmented work which qualifies the student for examinations yielding a grade-range of 2.5 – 1.4.

Category Three requires enriched work and higher-level examinations which will yield a grade range of 1.5 to 1.0.

Students who cannot complete the required written reports will be given an 'incomplete' grade; the work may then be completed within one year, regardless of the results of written examinations.

Advantages for the students

Students in the Open Programme can enjoy the many advantages which the programme offers, such as the following:

1. They can avail themselves of the opportunity to improve their education in spite of their lack of money for transportation or for living expenses in the city.

2. They can strengthen their capacity for self-reliance and independence, while developing good work habits.

3. They can make the best use of their time and effort by combining work and study to improve their education, thereby becoming disciplined and responsible individuals.

4. They are given alternatives to being drop-outs with less education, to being merely drop-outs from the formal classroom, with the benefits of continuing their education.

Problems and issues

Problem 1: Keeping the motivation of students in the Open Programme at a high level in order to enable them to produce work of high quality within the schedule framework. Strategy: Assigning a proctor for students in the same locality, whose functions are:

1. To call the students for conference every Saturday; to assist them during these conferences in identifying problem areas and seeking solutions to enable the students to fulfill their contracted assignments;

2. To discuss and assist students in overcoming common difficulties; to use the conference as a means of determining the effectiveness of a particular learning module; and

3. To assist the students in obtaining resource materials not contained in their learning modules.

Problem 2: Scarcity of books and other media for reference. Strategy: Designate learning resource centres in nearby, convenient locations. These centres will contain 'package' libraries, each 'package' library providing needed references for each subject area.

Problem 3: Inadequate evaluation of participation by students in group discussions. Strategy: Where it is not possible to send an instructor to supervise and evaluate the group discussions, a transistorized cassette recorder will be loaned to the learning resource centres where the students assemble for the group discussion. The discussion leader will take charge of recording the proceedings, emphasizing the need for each participant to first identify himself. Cassettes will be sent to the instructor for evaluation.

Improving the open programme design

The University of Mindanao hopes that, through international agencies like Unesco, it will be given the opportunity to observe other open school systems in order to improve its Open Programme. In addition, the University of Mindanao hopes to be able to establish contact with other agencies which are conducting educational research on open programmes and other behavioural systems of teaching. While funding will always be a problem, the university nevertheless intends to pursue its present programme to bring education to disadvantaged learners.

THE PHILIPPINES:
THE UNIVERSITY ON THE AIR, UNIVERSITY OF MINDANAO

by
Paquita Demetillo-Gavino

Background and setting

The University on the Air Programme of the University of Mindanao, as of the first semester of 1978-79, has an enrolment of 1,870 composed of public and private school teachers of Region XI and Region XII. These regions have a total of approximately 40,000 teachers in need of continuing education to keep up with changing needs toward universalization of education.

Realizing the need to help these teachers increase their competence and thus become more effective, the University of Mindanao has launched an innovative programme, a special project of the graduate school aimed to reach and service public and private school teachers, especially those living in distant communities, to enable them to earn a master's degree in education at minimum expense. This is called The University of Mindanao on the Air project or in short the UM Air.

Rationale, brief history of the project, and objectives

The University of Mindanao on the Air project was duly approved by Under-Secretary Narciso Albarracin as the then Director of private schools on 28 June 1969. Because of the time needed to plan the strategies to be used in its operation, organize the personnel to carry out its programme of activities and also to prepare the needed instructional materials, the project actually started in July 1971.

The UM Air is a project in continuing education of the University of Mindanao and the Asia Foundation. It has been designed for public and private school teachers with at least two years of experience in teaching who desire to pursue a graduate course in education while in their respective stations. These stations are relatively isolated from contemporary cultural, technological, professional and educational trends.

Teachers in remote areas particularly in Region XI and Region XII unable to commute daily to pursue their graduate education due chiefly to economic and many other valid reasons, are given the opportunity to enrol in the University of Mindanao and improve their competence through the medium of the radio. In this way they can study at home by listening to the lessons for the day. Students enrolled in the courses offered on the air earn credits which lead to the completion of the degree of Master of Arts in Education or Master of Arts in Teaching Elementary Education (MATEA)

Philosophy and Objectives

The UM Air is based on the concept that:

1. Education is not exclusively carried on in the classroom and need not be beyond the reach of the middle-income and low-income groups.
2. Educational institutions should maximize the utilization of their resources to hasten national development.
3. More opportunities for higher education should be provided for those in the deprived regions of the country.

The objectives of the project are:

1. To give teachers in remote areas the opportunity to improve their educational qualifications in spite of their lack of financial resources and time for study leave.
2. To maximize the use of resources other than the classroom for education and development.
3. To reduce the cost of education for teachers whose resources are limited.
4. To enable teachers to make the best use of time and effort by combining work and study for continuing education.
5. To fill the need for better qualified educators in small colleges in Mindanao.
6. To provide opportunities for teachers on the job to gain access to recent ideas and concepts in education.

Expected advantages of the UM Air programme

1. Greater economy for the participants in terms of time, money and travel.
2. Better and greater participation by students in class activities.
3. Participants have greater opportunities to do independent work and engage in class activities which strengthen learning.
4. Forum groups open up opportunities for the healthy exchange of ideas.
5. The programme will hasten the upgrading of the educational qualifications of these teachers who are participants in the programme.
6. Improved educational qualifications will help the low-income teachers – increase their salary level.

Administration and organization

The programme is directly administered by the Dean of the Graduate School of the University of Mindanao. Working with him are: the Administrative Officer and Co-ordinator with her supervisory and clerical staff, the faculty, the lecturers, broadcasters and forum leaders.

To date the UM Air has eight lecturers, four of whom are holders of the PH.D. in Education and four of Master's degrees, and 23 forum leaders, all master's degree holders.

The duties and responsibilities of the staff of the project follow:

Duties of the lecturer

1. To prepare a syllabus for the subject. This syllabus will include:
    a). Thirty-four unit radio lectures, with questions which the participants will answer in their workbooks. The questions shall be comprehensive enough to gauge the students' understanding of the lecture.
    b). Fifteen units or independent readings on specified topics from prescribed books. These will also be accompanied by questions which the participants will answer in their workbooks.
    c). A list of requirements for special projects, such as case-studies and problems to be presented in standard format.
2. To prepare questions for semi-final and final examinations which will be administered by the co-ordinator of the UM Air, assisted by faculty proctors and forum leaders.

3. To evaluate the examinations, workbooks and special problems of participants.
4. To give final ratings of participants.
5. To prepare modules as supplements to the radio broadcasts.

Duties of the broadcaster

To adapt the lectures to proper broadcast scripts and to tape-record the lectures.

Duties of the broadcast technician

1. To assist the broadcaster in tape-recording the lectures and dub sufficient tapes to make possible simultaneous broadcasts from different stations.
2. To make schedules for broadcast on all UMBN stations in co-operation with the co-ordinator of the programme.
3. To maintain a library of lecture tapes for future use.

Duties of the forum leader

1. To assist students during the enrolment period and accompany them to the main campus for orientation.
2. To assemble the participants in forum centres every Saturday for 17 weeks per semester, two hours per meeting.
3. To distribute mimeographed syllabuses, broadcast schedules, course requirements, modules, examination data and other reproduced reading materials to the participants. These mimeographed materials are prepared by the lecturers and reproduced by the secretarial staff.
4. To safeguard and lend out books and other reading materials from the packaged library to the participants under him.
5. To conduct forum discussions on topics as scheduled for the week and synthesize the reactions of participants to the radio lectures.
6. To direct discussion on the relevance of radio lectures to community needs and problems.
7. To take note of complaints of students regarding poor reception of radio lectures and to inform the co-ordinator of the problems. He should request a re-broadcast of lectures missed due to poor weather conditions.
8. To assist and guide students in satisfying the requirements of the course as specified in the course syllabus.
9. To assist in the administration of the mid-term and final examinations prepared and conducted by the lecturer on the main campus.
10. To evaluate participation in forum centres and send a report to the lecturers.
11. To collect all requirements of the course at the end of the semester and submit them to the co-ordinator for evaluation by the lecturer.

Duties of the co-ordinator

1. To supervise enrolment and give orientation.
2. To make schedules of activities for the entire system including broadcast hours, forum meetings, examinations, and submission of requirements.
3. To supervise distribution of syllabuses and packaged library materials

to forum leaders for their respective centers.

4. To receive all requirements from participants through the forum leaders and to pass these to the lecturer for evaluation.
5. To prepare all reports needed in the programme.

Duties of the supervisor

1. To visit forum centres, observe their activities and make a report to the co-ordinator.
2. To transmit all instruction to participants in the forum areas.

Facilities, resources and finance

The UM Air utilizes the radio stations owned and operated by the University of Mindanao Broadcasting Network (UMBN) with a special transmitter for educational broadcasts. These stations are DXUM located in Davao City, DXDS in Digos, Davao del Sur, DXDN in Tagum, Davao del Norte, and DXCM in Cotabato City. The UM library with its annual acquisition of professional books and periodicals provides each area with packaged libraries which are distributed to 31 existing centres as follows:

Region XI

Division of Davao City

1. Davao Central
2. Matina*
3. Daliaon
4. Tagbok*
5. Calinan
6. General Roxas
7. Buhangin*
8. Paguibato*

Division of Davao del Sur

9. Digos*
10. Padada*
11. Banate-Malalag
12. Malita
13. Banzalan*
14. Sta. Cruz

Division of Davao del Norte

15. New Bataan*

Division of Davao Oriental

16. Mati*
17. Mati North

Division of Surigao del Sur

18. Tandag
19. Tago
20. Lingig

Region XII

Division of Cotabato City

21. Cotabato City
22. Sero Central

Division of Maguindanao

23. Buldon
24. Buluan
25. Dinaig North
26. Datu Paglas

Division of Sultan Kudarat

27. Esperanza
28. West Isulan
29. West Lebak
30. East Tacurong

Division of North Cotabato

31. Kabakan

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*Holder of M.A. in Education.

Financing the project

Financing the UM Air project in its initial stages was approximately four times as expensive as the regular graduate school held on the main campus of the University. In the regular graduate school the professor and the school facilities receive the main bulk of the expenditure. Under the UM Air programme, however, increased expenditure was due to the salaries of the co-ordinator, lecturers, broadcaster and forum leaders, supervisor and clerical staff. From 1969-75, the project subsisted partly on tuition fees charged to the students and partly on aid given by the Asia Foundation. Funds from the latter were mainly used to purchase tapes and recorders. For two years now, however, the programme has been operating without outside financial aid, being able to subsist on the tuition fees of students alone. Tapes and lectures prepared over the years are being used again. Minimum expense is met for revision of broadcasts and lectures that have become outmoded.

Admission requirements

Graduates with baccalaureate degrees may apply for admission to the UM Air programme. UM Regulation No. 21-a, s. 1975 spells out the basis for admission, part of which follows:

1. As per regulation of the Department of Education and Culture, a student who has an average of 2, B, or 85 and or better in college may be admitted to take up the courses leading to the graduate degree. A student who does not meet these academic qualifications may work on non-degree programmes for professional advancement. If the student manifests competence and passes the qualifying examinations, he may apply for the degree programme leading to the master's degree with the approval of the Department of Education and Culture.

2. Transcripts of records of the baccalaureate course from the institution last attended must be presented by the applicant upon registration. If the transcript is not immediately available, the student may be enrolled temporarily upon presentation of his special order, certificate of graduation or honourable dismissal.

Principal activities: materials produced

During the enrolment period, students enrol through their forum leaders in the graduate school for subjects offered on the air. The forum leaders transmit to the main graduate school office all necessary enrolment forms for processing, and then they distribute the duly completed enrolment forms to their students. They then announce the date orientation when all students come to the main campus to meet the administrative personnel as well as the lecturers of the subjects they are enrolled in. During the orientation all requirements are explained. These consist of the following:

1.	Listening to broadcasts - 34 lessons of 30 minutes each	17 hours
2.	Attendance in 17 forums of two hours each with forum leaders in respective centres	34 hours
3.	Taking two examinations of two hours each	4 hours
	Total	55 hours

The bases for evaluation of student performance in the course are also explained during the orientation. The following are used as bases for grading students under the UM Air programme:

1.	Attendance in forums	10%
2.	Participation in forums	15%
3.	Term paper	20%
4.	Workbooks	15%
5.	Mid-term examination	20%
6.	Final examination	20%
	Total	100%

The forum leaders rate students on attendance and participation in forums, on term paper and on workbooks, while the lecturers rate the mid-term and final examinations.

Materials needed by students are also distributed during the orientation meeting. These include a broadcast schedule, the syllabus for the course, modules, and problems to be completed and guide questions to be answered from the student workbooks.

Before the students return to their stations they are given a guided tour of the university campus to familiarize them both with its set-up and with the facilities that are available to them. Students then return to their respective areas, returning to the main campus for the mid-term and final examinations. To ensure that standards are maintained common syllabus, mid-term and final examinations are set for students enrolled both in the UM main campus and the UM Air programmes.

To date, the UM Air has already produced and stored 680 tapes of lectures in 20 different subjects included in the graduate school curriculum. Also on file are 20 mimeographed bound volumes each containing 34 lectures to be broadcast. These include:

1. Ed. 200 – Advanced Philosophy of Education
2. Ed. 202 – Modern Educational Trends
3. Ed. 203 – Methods of Research
4. Ed. 204 – Advanced Supervision
5. Ed. 205 – Pupil Personnel Problems
6. Ed. 207 – Advanced Administration
7. Ed. 208 – Educational Sociology
8. Ed. 210 – Guidance for Exceptional Children
9. Ed. 212 – Comparative Education
10 Ed. 213 – Curriculum Development
11. Ed. 214 – Psychological Foundations of Education
12. Ed. 215 – Psychology of Exceptional Children
13. Ed. 220 – School Legislation
14. Ed. 221 – School Planning and Maintenance
15. Ed. 223 – Introduction to Special Education
16. Eng. 30 – The Life and Works of Dr. Jose Rizal
17. Ed. 217 – Educational Innovations
18. Ed. 218 – Institutional Finance
19. Ed. 219 – Group Dynamics in Education
20. Ed. 305 – Land Reform and Taxation

These are filed in the UM Air library for ready use and reference by students, forum leaders, lecturers and others who may be interested in the project.

Since the start of its operation the programme has serviced and assisted approximately 5,000 public and private school teachers who otherwise would not be able to earn credits leading to the degrees of Master of Arts in Education or Master of Arts in Teaching Elementary Agriculture (MATEA). In this way they have been able to come in contact with new trends in teaching practices and methodology. After completing 20 units of graduate work, some 900 have had salary adjustments in accordance with the WAPCO Classification Plan.

It should be noted, however, that some subjects are not offered on-the-air e.g. basic statistics, and thesis writing. Students come to the main campus to attend these subjects.

Evaluating the programme

The UM Air was first evaluated by a committee of three, composed of Regional Director Pedro Sanvicente, then Superintendent of City Schools; Division Superintendent Felix T. Villarin, then Superintendent of Private Schools; and Mrs. Efigenia C. Occena, Vice-President for Educational Services of the University of Mindanao, according to the instructions of the then Secretary of Education and Culture in a memorandum dated 6 August, 1973.

Members of the committee visited the forum centres and examined and evaluated the students' workbooks, term papers, mid-term and final examinations. The committee, after a thorough study of all pertinent data regarding the project, stated:

'Inspection of workbooks and term papers reveal that the performance in satisfying the requirements of the courses through the air is at par or even better than that of students in the main campus. Results of the common examinations given to both students in the main and those enrolled on the air reveal no significant difference.'

The committee's report of 38 pages was submitted to the then Bureau of Private Schools on 10 September 1973, but nothing was heard regarding their action on the report for approximately 2 years. Then, in August 1975, an order from the Department of Education and Culture was received to suspend the programme for at least a year pending formulation and submission of certain guidelines and standards.

Since the order to suspend was received in the middle of the semester the university proceeded with the programme. The Secretary of Education and Culture was convinced by UM Air staff members that the guidelines and standards had already been formulated and in fact had been used to guide its operation since the start of the programme. As a result of this the suspension order was lifted immediately.

The UM Air was evaluated again in the later part of August 1975. A team from the Department of Education and Culture (DEC) headed by Mr. Tomas Brual, Assistant Director of the Bureau of Higher Education, examined the components of the programme and inspected and visited the various centres. Then on 10 October 1975, another group of DEC officials, headed by Dr. Concesa Baduel conducted a validating examination on all students enrolled under the UM Air. Students were convened on the main campus for the examination.

Another inspection team was sent by the Ministry of Education and Culture (MEC) to evaluate the programme in July 1978.

So far the University on the Air programme of the University of Mindanao is the oldest programme using the radio as an educational device in operation in the Philippines. Efforts have been exerted by other agencies through the Ministry of Education and Culture to duplicate the programme. This is in line with the government's attempts to make education more democratic.

Outcomes of the project

1. Acquisition of an M.A. degree through the UM Air improves the socio-economic standing of the teachers not only in their own community but also in professional circles. They therefore command more respect and better prestige among their fellow men.

2. It is common knowledge that opportunities in life depend upon one being educationally prepared. To earn an M.A. degree is certainly a dream realized that would make the teachers better prepared to participate in community life. Those who have earned their M.A. degrees are enjoying the benefits that the degree brings. This was made possible for those teaching in isolated places through the UM Air.

3. The M.A. degree carries the attributes of knowledge, academic ability and respectability. It implies one has had worthy experiences and possesses understanding and educational leadership. It makes a graduate a much wanted person for there is a great demand for M.A. degree holders in colleges throughout the Philippines. No M.A. graduate can claim that there is no opening for him within the Philippine teaching profession.

4. Through the UM Air more teachers are potential M.A. degree holders. The Philippines is thus uniquely placed within the field of education having perhaps a greater number of potential M.A. degree holders in proportion to population than any other country.

Lessons from the project, experiences, problems and plans for expansion

Just like any other new venture, the UM Air project has met and is still facing many problems. Among these are:

1. Poor radio reception due to bad weather conditions.

2. Difficulty in adjusting the time of the broadcast and re-broadcast of certain lectures for the convenience of students without prejudicing other radio sponsors and patrons.

3. Limited reading materials in the forum centres.

4. Difficulty in communicating and transmitting written instructions to the forum centres.

5. Need for additional financial support to improve the project.

Since the start of the project, continuing efforts have been exerted by the administrators and staff of the project to solve or minimize those problems which hinder its smooth operation.

The UM Air project administrators and staff meet regularly and develop plans to improve and expand the programme. A summary of its plans are:

1. To utilize the facilities of the technical schools particularly the radio department to produce one-way receiving sets to be sold to students at minimum cost. This might help improve the reception of radio lectures.

2. To distribute to all forum leaders cassette tape-recorders so they can replay lectures missed during poor weather.

3. To get additional funds from other local, national or international foundations to finance the library-on-wheels. This will improve the reading materials for students in the different centres.

4. To organize more centres in Regions XI and XII so as to extend the service to approximately 30 per cent of the 40,000 teachers in these regions. This

means that the UM Air has to expand to be able to reach at least 12,000 teachers. This is about six times its present enrolment.

Table 1 Enrolments for first semester 1978-79, Region XI

Division of Davao City	Subjects	No. of students enrolled
Calinan	Educ. 317	
	Educ. 201	66
Davao Central	Educ. 208	
	Educ. 203	20
Daliaon	Educ. 213	
	Educ. 201	78
General Roxas	Educ. 317	74
Division of Davao del Sur		
Banate-Malalag	Educ. 213	
	Educ. 317	20
Digos	Educ. 317	
	Educ. 213	45
Malita	Educ. 202	107
Sta. Cruz	Educ. 213	
	Educ. 317	23
Division of Davao Oriental		
Mati North	Educ. 201	78
Division of Surigao del Sur		
Tago	Educ. 203	44
Tandag	Educ. 201	
	Educ. 214	42
Lingig	Educ. 317	70
Total		667

Table 2. Enrolments for first semester 1978-79, Region XII

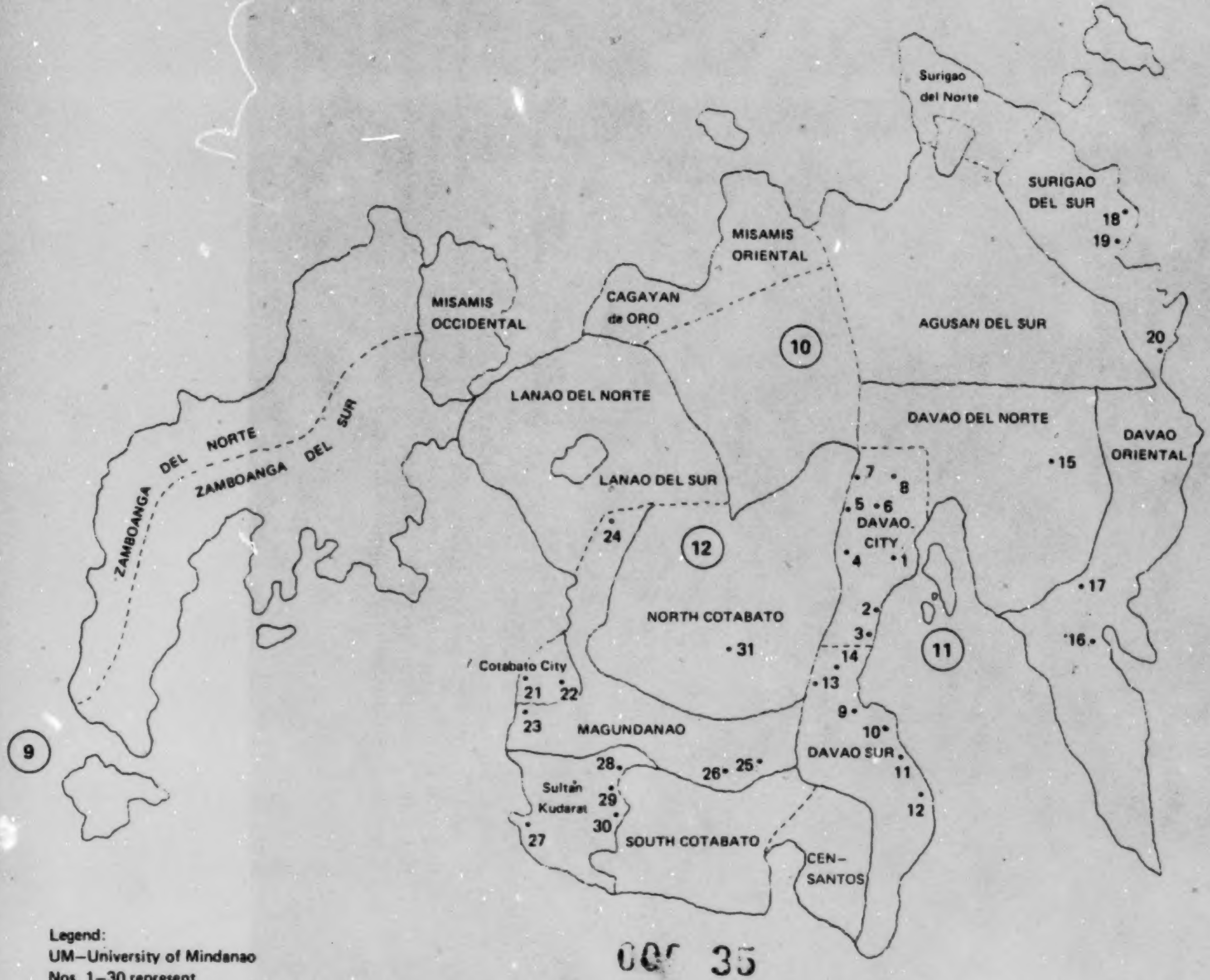
Division of Cotabato City

		Subjects	No. of students enrolled
21.	Cotabato City	Educ. 214	60
22.	Sero Central	Educ. 208	63
	Total		123

Division of Maguindanao			
23.	Dinaig North	Educ. 214	69
24.	Buldon	Educ. 214	80
25.	Buluan	Educ. 214	77
26.	Datu Paglas	Educ. 208	44
	Total		270
Division of Sultan Kudarat			
27.	West Lebak	Educ. 203	76
28.	East Tacurong	Educ. 208-203	118
29.	West Isulan	Educ. 203	112
30.	Esperanza	Educ. 203-208	128
	Total		434
Division of Cotabato North			
31.	Kabacan *	Educ. 200-210 Educ. 200-217 Educ. 209-207	26
	Total		26
	Grand Total		853

Concluding statement

The UM Air is a special project of the University of Mindanao Graduate School, specifically designed to make full use of the medium of the radio to disseminate broadcasts on modern trends, principles and methods in the field of education to a greater number of teachers in the Mindanao region. This innovation is in line with the objectives of Presidential Decree No. 6-A otherwise known as the Educational Development Decree of 1972 which encourages educational broadcasting. It is a bold venture and a new approach to graduate education in the Philippines.


Surigao
del Norte
SURIGAO
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MISAMIS
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de ORO
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LANAO DEL NORTE
DAVAO DEL NORTE
DAVAO
ORIENTAL
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ZAMBOANGA DEL NORTE
ZAMBOANGA DEL SUR
LANAO DEL SUR
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NORTH COTABATO
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Cotabato City
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MAGUNDANAO
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DAVAO SUR
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26
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Sultan
Kudarat
29
30
27
SOUTH COTABATO
CEN-
SANTOS

Legend:
UM–University of Mindanao
Nos. 1–30 represent
existing centers
9–Region IX
10–Region X

MAP OF MINDANAO PHILIPPINES

REPUBLIC OF KOREA:
DEVELOPMENT OF AIR AND CORRESPONDENCE HIGH SCHOOLS

by

Korean Educational Development Institute

Introduction

Although educational programmes through radio have been in operation for many years in the Republic of Korea in such fields as language teaching and music instruction, it was not until 1972 that systematic and organized educational radio programmes were developed when the Junior College of Air and Correspondence was established at Seoul National University.

Two years of experience of this college programme led the educational leaders to believe that a similar opportunity to study should be given to those who are unable to receive high school education after middle school.

In spite of a rapid growth in the number of schools at all levels, approximately 30 per cent of adolescents of high school age cannot be accommodated in the high schools in the Republic of Korea. This figure implies that 150,000 middle-school graduates each year are not admitted to high schools. According to the 1975 census report of the government, there were nearly two million people between the ages of 15 and 34 who completed middle school but not high school.

As an attempt to provide high school education to this large population, a new educational system called the 'Air and Correspondence High School' (ACHS) was introduced in the Republic of Korea in March 1974. Today 40 high schools function not only as regular high schools but as high schools of the air and correspondence.

The Korean Educational Development Institute (KEDI) was commissioned by the Ministry of Education to undertake planning and research on the organization and administration of the programme and to provide radio instruction and instructional materials. Actually, the institute had been engaged in research and development in the field of non-formal education and was already equipped with television and radio facilities for educational broadcasts.

Under a contract arrangement with the Ministry of Education, KEDI continues its direct involvement with the ACHS project. This involvement includes the administration, supervision, and evaluation of the project, as well as the preparation of the broadcast and supplementary materials for the various content areas in the ACHS programme.

Because of the continuing technical difficulties with the telecom (T-COM) transmission system, KEDI was not able to implement its educational broadcasting programmes as planned. IT and IR programmes were originally planned as a major component of the educational reform effort. ITV and IR programmes and curriculum are related. TV and radio programmes, the general educational TV and radio programmes designed by KEDI are those that have applicability to the Korean population at large. They will be produced and designed generally for the adult population, but are often useful for the school age population as well.

Furthermore, this programme aims at the provision of basic educational opportunities for the masses, both children and adults, who have had little or no access to such opportunities.

Purpose of the school

The purpose of the ACHS project is to provide secondary education to those who are unable to receive high school education after middle school due to financial reasons, legal restrictions and cultural disadvantages. Ultimately, the school is:

1. To expand the opportunity for secondary education through the use of mass media;
2. To solve problems caused by the newly adopted middle and high school entrance examination system;
3. To put adult education or non-formal education into realization;
4. To conduct high school education for those who are unable to attend high school; and
5. To improve the equality of education and universalize education.

Administration and organization

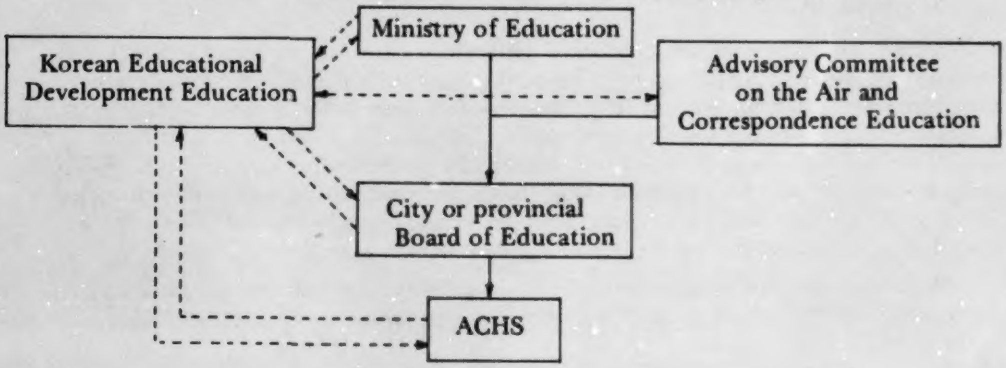
The schools of the ACHS programme are operated under the close co-ordination of the Ministry of Education, the Korean Educational Development Institute, the regional boards of education, and the individual high schools.

The Ministry of Education is responsible for basic policy-making pertaining to the schools, curriculum development, approval of establishment of schools, approval of textbooks, supervision and financial support.

The regional boards of education which are responsible for direct supervision of schools have to initiate the establishment of the ACHS from the existing public high school. They are also responsible for selecting and allocating the students to each school and they support KEDI in teacher training and other matters concerning the operation of the programme.

KEDI has to provide textbooks, radio programmes, test materials for joint evaluation, and teacher training materials. It also has to establish a co-ordination channel among KEDI, the Ministry of Education the regional boards of education and the schools. KEDI is expected to collect various data for the Ministry of Education's policy guide in the fields of air and correspondence instruction.

Each school in the ACHS system is responsible for conducting classroom teaching, evaluation, maintenance of students' records, student counselling and management of other matters necessary for the programme. The following diagram outlines the administrative structure behind each school in the ACHS programme.


Ministry of Education
Korean Educational Development Education
Advisory Committee on the Air and Correspondence Education
City or provincial Board of Education
ACHS

Each administrative division has the following functions:

1. Ministry of Education
   - formulation of general policies
   - formulation of curriculum and approval of textbooks
   - approval of the establishment of a school
   - administrative and financial support
   - formulation of rules and regulations of the ACHS
2. Boards of education
   - direct supervision of schools
   - assigning of teachers
   - allocation of students
   - administrative and financial support
3. The ACHS
   - classroom teaching
   - student counselling and guidance
   - student records
   - correction and evaluation of students' assignments
   - management of the programme
4. KEDI
   - textbook and instructional materials
   - radio instruction
   - joint examinations
   - research on the non-formal education system
5. Advisory Committee on the Air and Correspondence Education
   - advice on basic policies

Present status of the school

The schools in the ACHS programme are attached to the existing regular high schools. On every alternate Sunday, classes take place in the regular school buildings using the existing facilities. The regular high school teachers participate in these sessions and receive payment of W1500 (480 won = US$1) an hour.

Some of the schools are coeducational. The necessity of coeducation developed because schools for female students only were not accredited in several regions due to unacceptable transportation conditions. Further reasons for the establishment of a coeducational system were that applicants were so few in number and a large portion of students dropped out during the course of study.

The curriculum of the schools in the ACHS system is the same as that of the regular high schools. The qualification standards for regular high school students are applied to the students of the ACHS schools. Therefore, the students of ACHS schools who want to apply to the colleges or universities are required to take the preliminary examination for admission to the advanced school after graduation.

Number of schools

As of 1976, 47 ACHS schools had been established. The existing number of schools is 40, however, because many schools were abolished.

Table 1. Number of schools by year

Year	Schools established	Schools in existence
1974	15	11
1975	24	36
1976	8	40

The abolition of some schools was inevitable – some had too few applicants and others had many students drop out. It is felt, however, that 40 schools is not sufficient to provide adequate educational opportunities in a high school programme.

Table 2. Number of schools by region

Region	Number of schools
Large city	14
Medium city	9
Small city	17

From past experience, KEDI researchers have learned that in small city areas, many ACHS students have to take a long round trip between their home and the school where attendance class is held on every other Sunday. Naturally there are attendance problems, making it necessary to establish more high schools in small city areas in the future. In fact, some of the schools in small cities offer high school courses to the people who are living on farms or in fishing villages far from the cities and who were not able to go to regular high school. The number of such schools, however, is too small to spread the benefits of the high school curriculum.

As shown in Table 3, seven of the ACHS schools have both female and male students.

Table 3. Number of schools by sex

Schools by sex	Number of schools
Boys only	20
Girls only	13
Boys and girls	7

In the Republic of Korea, coeducation at high school level is not widespread. Although coeducation provides advantages for acquiring social skills, including the formation of interpersonal relationships, the present facilities of boys-only or girls-only schools cannot accommodate both female and male students. This problem stems from the fact that the curriculum for boys differs from the curriculum for girls at high school level. A common curriculum was necessary in the ACHS system making coeducation inevitable.

Teachers

The number of teachers and administrative staff working for ACHS schools is approximately 900.

Table 4. Staffing

Principals	Vice-principals	Head-teachers	Subject teachers
40	40	40	776

As mentioned earlier, the regular high school teachers are also appointed as ACHS teachers for teaching in attendance classes on every alternate Sunday—the teachers work in the regular high school and the ACHS. It is the same for the principals and vice-principals who take responsibility for overall supervision of regular high schools and ACHS schools.

Teachers who are appointed to the ACHS are paid extra money for their plural duties.

The students

Basically, there is no age limitation for admission to the schools. Any person who has completed the middle school programme can apply to the schools for admission. Such an admission policy has resulted in a wide range of individual differences in such areas as age, occupation, year of middle school graduation and so on. The ACHS programme depends heavily on self-directed study, radio instruction and attendance by students at lectures on every other Sunday. This enables those who have occupations to combine both work and study. In general, academic achievements of ACHS students lag behind those of regular high school students due to the fact that the students are admitted into the schools without an entrance examination.

Thirty-eight per cent of enrollees in 1974 had dropped out of the schools by the beginning of the 1975 academic year and 20 per cent of the remaining students of the schools as of April 1976. These figures indicate that 58 per cent of the students who were admitted in 1974 dropped out of the schools in the period between March 1974 and April 1976. Since April 1976, 3,440 of the students admitted in 1975 have dropped out.

One of the important factors affecting such a high drop-out rate seems to be that the students who were unable to complete their courses were lacking in the basic skills needed for effective study. If this reasoning is correct, there is an urgent need to develop some measures for improving the basic abilities of the students before they enter the school programmes. Development and implementation of supplementary instructional programmes is regarded as one realistic method of coping with this problem.

The proportion of male students is 55.5 per cent as shown in Table 5. There is a tendency for the number of male students to increase as the grades go up. Conversely, the number of female students decreases as the grades go up indicating a higher drop-out rate.

Table 5. Number of students by sex (percentage in brackets)

Sex	Total students	1st Grade	2nd Grade	3rd Grade
Male	10,440 (55.5)	4,255 (54.3)	4,503 (55.7)	1,682 (58.1)
Female	8,368 (44.5)	3,578 (45.7)	4,378 (44.3)	1,212 (41.9)
Total	18,808 (100.0)	7,833 (100.0)	8,881 (100.0)	2,894 (100.0)

The higher drop-out rate for female students may have a number of causes: (1) many parents of female students do not want their daughters to continue studying because they still believe in the predominance of men over women; (2) many female students of marriageable age give up their studies for marriage; and (3) female students generally are not earnest with regard to long-time study in comparison with male students.

The majority of the ACHS students fall between ages 15 to 26. Students in the age range 15 to 17, comprise only 25 per cent of the total students, while almost all of regular high school students fall between the ages of 15 and 17. Considered by sex, 91 per cent of male students and 97 per cent of female students are in the age range of 15 to 26. Twenty-three per cent of male students and 28 per cent of female students are within age range 15 to 17.

Approximately 70 per cent of the ACHS students have occupations, and considered by sex, 76 per cent of male students and 63 per cent of female students have occupations. The unit occupation which is the most widely held is skilled worker, 16.3% per cent in the case of male students; and company employee, 26.7 per cent in the case of female students.

One occupation, agriculture, is more common among grades I and II students (8.8 per cent and 12.2 per cent respectively) than among grade III students (3.3 per cent). One reason for this is that grade III students (3.3 per cent). One reason for this is that grade III students are concentrated in large city areas and students of grades I and II are concentrated in medium or small city areas.

Attendance at Sunday classes

The ACHS students are expected to listen to radio instruction every week day. They are also expected to participate in the attendance classes on every alternate Sunday. The number of days for attendance schooling during a year is 22 or 23. In addition to this four days are set aside for the mid-term and final examinations. In spite of there being such a small number of attendance days, students' attendance is sluggish as shown in Table 6.

Table 6. Percentage rates of attendance (1975)

Semester	Total			Grade I*			Grade II		
	male	female	total	male	female	total	male	female	total
1st	74.3	82.8	77.7	78.8	84.5	81.1	78.3	83.3	80.3
2nd	76.7	82.7	79.1	69.7	81.1	74.3	75.0	82.1	77.0

Note* represents grade level at the time of the survey in 1975.

In general, the attendance rates of male students are worse than those of the female students. Considered by semester, attendance rates during the second semester are lower than those of the first semester in both groups.

Such an attendance rate of approximately 80 per cent can hardly be regarded as low or unexpected in the case of the ACHS; a large portion of the students are frequently unable to attend the Sunday classes because they have to work on Sunday in their occupations and it can also be very difficult for the students living far from the school to attend every class. Lack of enthusiasm for study may be another factor affecting the attendance rate; many students come from economically poor families and usually their parents are not well educated. Under these circumstances, the parents generally do not put emphasis on their children's schooling, and, consequently, the students may lose interest in their study.

The curriculum and instruction

1. General aims of the curriculum

The curriculum of the ACHS system is, in principle, based on that of a regular high school, with some modifications made in due consideration of the unique characteristics of the school. It reflects the educational philosophy and objectives of the government.

The curriculum is organized in such a way as to meet the following objectives:

a) the cultivation of those qualities that befit a citizen of the Korean nation;

b) the strengthening of human education; and

c) the development of potential abilities and the increase of knowledge.

As stated previously, the general objectives of the curriculum for the ACHS are based on those of a regular high school, with some modification made in due consideration of the unique characteristics of the school. These objectives can be summarized as follows:

a) self-realization;

b) national development; and

c) emphasis on democratic values.

2. Instruction through school attendance

a) Instruction through school attendance is conducted on every alternate Sunday with the total days of attendance numbering 26 days. (The first and third Sundays of each month are the days of attendance). In the months when the mid-term and final examinations are conducted, students meet on three Sundays.

b) Each Sunday consists of seven 50-minute class periods.

c) The subjects emphasized during attendance instruction are the ones which are more difficult to study by means of self-study or instruction by radio, or with require experiment, practice and actual participation.

To be more specific, such courses as mathematics, science, technology, vocational education, home economics, home-making and English receive more emphasis.

3. Instruction by the air

a) The number of days of instruction by radio exceeds 280 days (excluding 52 Sundays, national holidays and 33 days at the beginning and at the end of each semester).

b) Two subjects are taught by the air daily; the time of instruction allotted to each is 15 minutes.

c) The total hours of instruction by the air for one year is 180 hours per subject.

d) In order that maximum efficiency can be attained through instruction by the air, priority is given to such courses as English and German.

4. Self-study

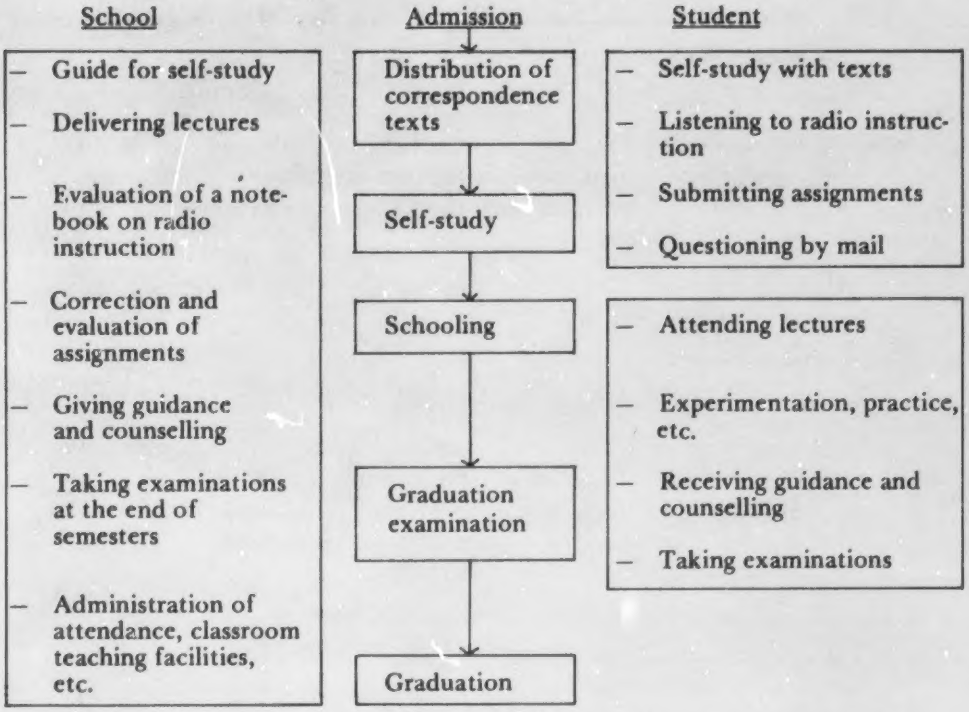
a) The annual total of days for self-study is 280.

b) It is imperative that the students do three hours self-study a day. (Four hours is recommended).

The total of self-study hours for one year is 840. If four hours of self-study is observed, the total hours amount to 1,120.

5. The method of instruction

The relationship between the method of instruction and the procedure from admission to the school until graduation is illustrated in the diagram below:


School
Admission
Student
– Guide for self-study
– Delivering lectures
– Evaluation of a notebook on radio instruction
– Correction and evaluation of assignments
– Giving guidance and counselling
– Taking examinations at the end of semesters
– Administration of attendance, classroom teaching facilities, etc.
Distribution of correspondence texts
Self-study
Schooling
Graduation examination
Graduation
– Self-study with texts
– Listening to radio instruction
– Submitting assignments
– Questioning by mail
– Attending lectures
– Experimentation, practice, etc.
– Receiving guidance and counselling
– Taking examinations

The back of the title page and the inside of the back cover of the textbooks contain guidelines in the following form:

Table 7. Study plan in correspondence texts

Week	Scope and contents of learning	Method of learning	Reference book	Confirmation of progress
1st week	Unit I. the beginning of human society	To read text and take notes of the summary	Appended map for the use of high school students	

Problems and needs

The specific problems and needs in the administration of the air and correspondence high school are outlined below.

1) There is an unbalanced opportunity for education caused by the city-centred location problem of the school.

2. There is an absence of social recognition for the ACHS schools (non-understanding of employers/lack of provision of vocational stability/insufficient public relation activities).

3. There is an increase of drop-outs in the course of studying due to either a lack of basic academic competency on financial overload or both (in the school year 1975, approximately 30 per cent of students dropped out).

4. Inappropriateness of time and radio channels for broadcasting lectures.

5. There is a shortage of allowances for radio teachers and lack of funds for broacasting lectures in prime time.

6. Expensive electric wave fee for the better radio lectures.

7. There is a necessity for special and well-deliberated programmed instructional textbooks.

8. The expensive textbook price is caused by the necessity to publish a self-study textbook especially for the Air and Correspondence High Schools.

9. Misadaptation of textbook approval system from the Ministry of Education is caused by the absence of proper regulations governing the textbook approval system.

10. It is irrational that the duties of ACHS supervision belong to the section of social education in the city or provincial boards of education.

11. Lack of teacher enthusiasm caused by excessive work loading.

12. Inadequacy of classroom teacher's allowance and school management expense.

Suggested solutions

1. Establishing more schools in small and medium cities and in farming and fishing villages.

2. Improving the academic competence of students by increasing the number of radio lectures including the programmes for reinforcing the classroom teaching and correction guidance.

3. Reducing the economic burden on students by introducing instalment payment for tuition.

4. Promotion of social recognition of the ACHS and employer's understanding and support for students.

5. Establishment of a scholarship system to foster an academic atmosphere for those students who did not enter a school of higher grade.

6. Maintenance of a radio lecture channel and enriching the content of the lectures.

7. Securing a proper radio broadcasting time zone for radio instruction at public or civic commercial broadcasting stations.

8. Facilitating the installation of KEDI broadcasting system, so that educational programmes for the ACHS can be aired through its own system from the school year beginning in 1977.

9. Production of instructional radio programmes of good quality relevant to the characteristics of air and correspondence education.

10. Provision of a proper educational curriculum and publication of more textbooks particularly suited to air and correspondence education.

11. Legislation of a textbook approval system for the Air and Correspondence High Schools.

SECTION TWO

PROGRAMMED LEARNING AND MICRO TEACHING

INDIA:
AN EXPERIMENTAL STUDY OF MICROTEACHING

by

Smt. Bimla Passi

Introduction

This paper looks at the effects of instructional material and feedback upon the development of the teaching skills of set induction and closure as part of the programme of preparation of student teachers at M.S. University of Baroda, Baroda, India.

It is undertaken in the area of student teaching and it addresses the following questions:

1. What types of supervisory comments are given by the college supervisors to the student teachers in their lesson notebooks?
2. What would be the attitudes of the student teachers towards a microteaching approach?
3. How far would the skill-based instructional materials be effective in developing selected teaching skills and general teaching competence among student teachers?
4. What would be the attitudes towards teaching, of student teachers who underwent different types of student teaching programmes?

The rationale of these quesions and related issues are discussed and pursued in this paper through a theoretical framework developed upon the bases of related studies and observations.

Lately, the student teaching programme is being criticised for some of its drawbacks in various aspects. These aspects are related to: (a) procedures; (b) objectives; (c) theory and practice, and (d) supervision and feedback. In spite of many efforts the student teaching programme in India has not improved a great deal. In view of the studies reviewed in India (Education Commission, 1966; Palsane and Ghanchi, 1967; Upasani, 1966, Joseph, 1967; Sharma, 1968; Mallaya, 1968, Marr et al., 1969; Saikia, 1970; Srivastava, 1970; Kosla, 1970; Mehrotra, 1974; Kohli, 1974; and Singh, 1976), it can be concluded that the existing training programme is inadequate for meeting the needs of the prospective teachers. The main reason for this inadequacy as pointed out by Buch (1974), Passi and Padma (1975), and Travers (1975), is that teacher education has inadequate empirical basis to streamline the programme.

In order to overcome some of these defects, surveys of innovative programmes were undertaken by Buch (1967), Joshi (1972), and Singh (1976). This was done with a view to finding out about new programmes available for teacher education in India. As a result, innovations such as microteaching, interaction-analysis, simulation, competency-based teacher education and self-confrontation were proposed and are being tried out.

Among various new techniques proposed and tried out, microteaching was especially introduced as an innovative technique in teacher education in India. This innovative programme is said to be a scaled-down process in terms of class size, length of time, unit of content, and complexity of task.

Microteaching involves five steps: teach, feedback, re-plan, reteach, and re-feedback.

The effectiveness of microteaching in terms of the acquisition of general teaching competence has been worked out abroad, but the situations in colleges of education in India are different. Thus, testing the effectiveness of microteaching in terms of general teaching competence in the normal training conditions of a training institution in India, and where VTR and CCTV are missing, was a challenging aspect of this study.

Some studies in microteaching have already been completed in India with a view to knowing the attitude of student teachers towards microteaching. A close examination of these studies revealed doubtful validity of the results. Many of these studies have been carried out on small samples and only a few studies have been conducted on the basis of well-controlled experimental designs involving control groups. Hence, it was thought desirable to conduct a study on attitudes towards microteaching by employing a large sample in the Indian context.

Even if microteaching is considered to be an effective technique for developing teaching skills and general teaching competence among the student teachers, there is still a need for developing instructional materials. It should be noted that none of the Indian studies has developed comprehensive instructional materials for various skills. Although much material is available abroad, in terms of minicourses (Bory et al., 1970, Turney et al., 1973 and Perrott et al., 1974), they are neither directly applicable to nor available in India. The development of wall-tested materials in the printed form is an important requirement for the effective implementtion of microteaching in the Indian context. To fulfil this need, a study was undertaken to develop handbooks on instructional skills.

Background and identification of problems

It appears that a study had to be undertaken to find out the nature of feedback given by college supervisors in terms of written comments for practice teaching lessons. In order to improve their feedback comments, the skill-based approach is to be implemented to observe practice lessons by student teachers. This skill-based approach, in the form of microteaching having skill-based instructional materials and skill-based feedback, requires investigation in terms of the acquisition of teaching skills and general teaching competence, and also attitudes of student teachers towards teaching. Hence, the problem of the effect of instructional materials and feedback upon the development of the teaching skills of set induction and closure led to an experimental study of microteaching for preparation of student teachers.

The problem is stated more specifically in terms of objectives, hypotheses, and delimitations given below.

Objectives

The following were the objectives of the study:

1. To examine the nature of written feedback provided to the student teachers in the current student teaching programme.

2. To study the attitude of student teachers towards the microteaching approach,

3. To develop instructional materials for selected teaching skills,

4. To study the effectiveness of the instructional materials in developing

corresponding teaching skills and general teaching competence among student teachers; and

5. To study the effect of different training approaches upon the attitude of student teachers towards teaching.

Hypotheses

To fulfil the objectives of the study, the following hypotheses were formulated:

1. Student teachers exposed to microteaching in simulation do not have favourable attitudes towards microteaching.

2. Student teachers of the experimental group having instructional materials and skill-based feedback in microteaching settings for the following skills do not differ significantly in the acquisition of these skills from the control group:

   a) the skill of introducing a lesson,
   b) the skill of achieving closure;
   c) the skill of reinforcement;
   d) the skill of fluency in questioning; and
   e) the skill of probing questioning.

3. Student teachers of the experimental group having 'instructional materials and skill-based feedback in microteaching settings for selected instructional skills' do not differ significantly in the acquisition of this general teaching skill from the control group.

4. Student teachers of the experimental group having 'instructional materials and skill-based feedback in microteaching settings for various teaching skills' do not differ significantly in their attitude towards teaching from the control group.

Delimitation

The study was confined to the secondary school student teachers drawn from the University teaching department because the student teachers studying through the medium of English are normally above average in their achievement levels.

The study was further restricted to only a few selected instructional skills. These skills were, (a) the skill of introducing a lesson, (b) the skill of achieving closure, (c) the skill of reinforcement, (d) the skill of fluency in questioning, and (e) the skill of probing questioning. The efforts to develop these skills among student teachers were restricted to microteaching settings in simulation.

Instructional materials in the form of symbolic models were developed because of the unavailability of sophisticated equipment such as video tape and CCTV. Perceptional modelling was used only when the skills were demonstrated by the supervisors and student teachers.

Method and procedure

The methods and procedures employed in the study were formulated according to two objectives.

Objective 1: Supervisory feedback during student teaching. To fulfil objective 1, namely 'To examine the nature of written feedback provided to the student teachers in the prevailing student teaching programme', the following methodology was used. A total of six lesson plans from 127 student teachers (762 lessons) of the Faculty of Education and Psychology, the M.S. University of Baroda, were examined. A check-list consisting of twenty-one categories on the lines of the Baroda General Teaching Competence scale was prepared. Some of the twenty-one teaching skills included in the list are: (a) objectives of the lesson, (b) content selection, (c) content organization, (d) audio-visual material chosen, (e) introduction of the lesson, and (f) questioning. A simple frequency count and percentages were worked out for studying the nature of written comments given by college supervisors to student teachers during their practice teaching lessons. Contingency tables (2 x 2) were prepared for the two dimensions of : (1) the stage of practice teaching–beginning and end, and (2) the nature of the comments – positive and negative.

Objective 2: Students' attitude towards microteaching. To fulfil objective II, namely, 'To study the attitude of the student teachers towards the microteaching approach', the following methodology was adopted. A single group post-test study was conducted using a total number of 129 student teachers of the Faculty of Education and Psychology, the M.S. University of Baroda, for the session 1975-76. In order to know the attitude of the student teachers towards microteaching technique an 'attitude scale of teacher trainees towards microteaching' was administered. This scale consisted of thirty-two statements pertaining to different dimensions of microteaching. These dimensions are: (a) microteaching in general; (b) component skill approach; (c) short duration of teaching; (d) smaller teaching units; (e) smaller number of pupils; (f) simulation; (g) feed-back; and (h) administrative difficulties. The statistical technique of chi-square was employed to analyse the data. The responses of student teachers to each statement were examined against the expected distribution hypothesis.

Objective 3: Development of instructional materials. In order to fulfil objective 3, namely, 'To develop instructional materials for selected teaching skills' the following steps were followed.

Within the scope of the study, the instructional materials for the skill of introducing a lesson, the skill of achieving closure, the skill of reinforcement, the skill of fluency in questioning, and the skill of probing questioning, were developed. The broad outlines for developing such materials can be summarised in the following four steps: (a) based upon the review of the related literature, interviews, discussions and observations, the outlines of the initial drafts of the instructional material were prepared; (b) preparation of the first draft included preparation of five handbooks for the five teaching skills, namely, introducing a lesson, achieving closure, reinforcement, fluency in questioning, and probing questioning; (c) preliminary field testing included trying out the initial drafts and getting the reactions of the teacher educators, research fellows and in-service teachers; and (d) main field testing included getting the reactions of the above persons and modifying the instructional materials for the final draft accordingly.

Objective 4 and Objective 5: Effectiveness of instructional materials and attitudes towards teaching. In order to fulfil objectives 4 and 5, namely, 'To study the effectiveness of the instructional materials in developing corresponding teaching skills and general teaching competence among student teachers' and 'To study the effect of different training approaches upon the attitudes of student teachers towards teaching', an experiment was conducted with parallel group covariance design. Three groups – experimental group A, experimental group B, and control group C, were formed.

To test these two objectives a sample of 34 B.Ed. trainees was drawn from the Faculty of Education and Psychology, the M.S. University of Baroda during the session 1975-76. The data regarding the sex, age, teaching experience and qualifications of the trainees, was taken from the college records. The Madhookar Patel's Intelligence Test (MPIT) and the Ahluwalia's Teacher Attitude Inventory (ATAI) were used to measure the respective covariates. The variable of attitudes towards teaching as measured by the ATAI was used as the criterion variable. Apart from the general data collected from the university records, and the two covariates measured through the MPIT and the ATAI, the criterion variables representing the skills of introducing a lesson, achieving closure, reinformcement, fluency in questioning, probing questioning were measured with the help of skill-based observation schedules. The criterion variable of general teaching competence was measured by employing the Baroda General Teaching competence scale (BGTC). A brief description of these tools and their purposes is given in Table 1. The data related to the criterion scores for five instructional skills and general teaching competence observed for four different lessons -- lesson 1, lesson 2, lesson 3 and lesson 4—in school settings, were analysed by employing ANCOVA. The data were available for three groups-A, B, and C. The data related to attitudes towards teaching were also analysed through ANCOVA. A schematic presentation of the experimental design is shown in Table 2.

Table 1. A brief description of tools used in the experiment

Name of the Tool	Variable	Purpose
Check-list for examining supervisory comments	–	study of supervisory comments (feedback)
Attitude scale of teacher trainee towards microteaching	Attitude towards microteaching	Criterion
The Madhookar Patel's Intelligence Test (MPIT)	IQ	Covariate
The Ahluwalia's Teacher Attitude Inventory (ATAI)	Attitude towards teaching	Covariate and Criterion
Observation schedule for the skill of introducing a lesson	Skill of introducing a lesson	Criterion
Observation schedule for the skill of achieving closure	Skill of achieving closure	Criterion
Observation schedule for the skill of reinforcement	Skill of reinforcement	Criterion
Observation schedule for the skill of fluency in questioning	Skill of fluency in questioning	Criterion
Observation schedule for the skill of probing questioning	Skill of probing questioning	Criterion
The Baroda General Teaching Competence scale (BGTC)	General teaching competence	Criterion

Table 2. Schematic presentation of the experimental design

<table>
<tr><td colspan="3">Orientation lectures on microteaching, observation and feedback systems, simulation, role-playing, teach-reteach cycle for the skills of reinforcement and probing questioning to B. Ed. trainees (N = 34)</td></tr>
<tr><td colspan="3">Pre-treatment measures: administration of MPIT* and ATAI* (N = 34)</td></tr>
<tr><td>Experimental Group A(N=16)</td><td>Experimental Group B (N=9)</td><td>Control group C (N=9)</td></tr>
<tr><td>Theory and practice for the skills of
(i) Introducing a lesson
(ii) Achieving closure
(iii) Reinforcement
(iv) Probing questioning</td><td>Theory and practice for the skill of fluency in questioning
Theory and practice of three skills of second project</td><td>Traditional teacher training</td></tr>
<tr><td>Skill-based practice and feedback</td><td>Skill-based practice and feedback</td><td>Overall practice of all teaching skills and global feedback</td></tr>
<tr><td colspan="3">** BGTC scores and skill-based measurements for four lessons (Lesson 1, Lesson 2, Lesson 3 and Lesson4) in normal school-based classroom settings
Post-treatment measures—ATAI</td></tr>
</table>

*MPIT: The Madhookar Patel's Intelligence Test
*ATAI: The Ahluwalia's Teacher Attitude Inventory
**BGTC: The Baroda General Teaching Competence Scale

Results

The data related to the five objectives of the study were collected as per the methodology described above. The data were subjected to various statistical techniques depending upon the nature of the objectives and the nature of the data. These results were discussed and the following conclusions were drawn.

Conclusions

These conclusions can be generalized to the extent of the nature of the sample and the methodology employed in the study. The main conclusions are given in accordance with the objectives.

Objective I:

1. For as many as 762 lessons, there were 2065 comments. The average comment per lesson was 2.71.

2. There was a relationship between the nature of comments and the stage of practice teaching negative comments increased with the stage of practice teaching.

3. The number of comments given at the beginning of practice teaching was more than at the end of the practice teaching.

4. Approximately two-thirds (63.27 per cent) of the total comments were positive in nature.

5. Generally, the remarks given by the supervisors were subjective in nature.

6. The remarks were given in a very generalized form; they lacked specificity in behavioural terms.

7. Frequently, the comments were prescriptive and did not give a causal explanation.

8. There was no formula used for giving the comments; hence, the observations tended to be unstructured.

9. Supervisory comments clustered around a few aspects of teaching such as questioning, explaining, use of the blackboard and increasing pupil participation, etc., whereas, some other aspects such as statement of objectives, content selection, evaluation and using remedial measures had been ignored.

Objective 2

10. The majority of the student teachers who attended the microteaching programme under simulated conditions expressed a favourable attitude towards microteaching in general. They agreed that this technique was an effective, economical and useful approach to the training of teachers.

11. The majority of the student teachers indicated a favourable attitude towards the 'component skill approach' by stating that this approach was more meaningful, as it simplified the complex teaching situations.

12. The majority of the student teachers favoured the aspect of 'shorter duration of teaching' by saying that 'it was not difficult to teach a short unit through this approach.'

13. Approximately half of the student teachers reacted favourably to the aspect of 'smaller number of units'. Their contention was that the division of a bigger unit into a smaller unit was not difficult.

14. Regarding the aspect of 'smaller number of students', the majority of the student teachers felt that motivating the students and arousing their interest and curiosity was not difficult given a small class.

15. The majority of the student teachers showed a favourable attitude towards the aspect of 'simulation' by saying, 'It had been helpful in providing them with self-confidence and the opportunity for acquiring specific teaching skills.'

16. With respect to the aspect of 'feedback', the majority of student teachers

agreed with the idea that immediate, pin-pointed, constructive, and well-stated feedback in behavioural terms helped them in improving their performance.

Objective 3

17. Instructional materials in the form of handbooks for teachers, related to the five skills have been prepared. At present, these are only available in the form of a printed book.

Objective 4

18. (a) Student teachers of the experimental group having 'instructional materials, and skill-based feedback in microteaching settings for the skill of Introducing a lesson' exhibited better performance than those of the control group in the acquisition of this skill in the case of two observations.

(b) The experiemntal group having 'skills other than the skill of introducing a lesson' did not differ significantly from the control group in the acquisition of this skill.

(c) The experimental group having 'instructional materials and skill-based feedback in microteaching settings for the skill of introducing a lesson' did not differ significantly from experimental group having 'skills other than the skill of introducing a lesson' in the acquisition of this skill.

19. (a) The experimental group having 'instructional materials, and skill-based feedback in microteaching settings for the skill of achieving closure' exhibited better performance than the experimental group having 'skills other than the skill of achieving closure' and the control group, in the acquisition of this skill.

(b) The experimental group having 'skills other than the skill of achieving closure' did not differ significantly from the control group in the acquisition of this skill.

20. The experimental group having 'instructional materials, and skill-based feedback in microteaching settings for the skill of reinforcement and experimental group having skills other than the skill of reinforcement' attained higher scores than those of the control group in that acquisition of this skill.

21. (a) The experimental group having 'instructional materials, and skill-based feedback in microteaching settings for the skill of fluency in questioning' scored significantly higher than the experimental group having 'skills other than the skill of fluency in questioning' in the acquisition of this skill in the case of one observation.

(b) The experimental group having 'instructional materials, and skill-based feedback in microteaching settings for the skill of fluency in questioning' attained significantly higher scores than the control group in the acquisition of this skill in the case of one observation.

(c) The experimental group having 'instructional materials and skill-based feedback in microteaching settings for the skill of fluency in questioning' scored significantly higher than or equal to the experimental group having 'skills other than the skill of fluency in questioning' and control group, in the acquisition of this skill.

22. (a) The experimental group having 'instructional materials and skill-based feedback in microteaching settings for the skill of probing questioning' and experimental group having 'skills other than the skill of probing questioning' exhibited a better performance than the control group, in the acquisition of this skill.

(b) The experimental group having 'instructional materials and skill-based feedback in microteaching settings for the skill of probing questioning' did not differ significantly from the experimental group having 'skills other than the skill of probing questioning', in the acquisition of this skill.

Conclusions related to general teaching competence

23. (a) The experimental group having the 'instructional materials and skill-based feedback in microteaching settings' for one set of skills and the experimental group having the same for another set of skills, attained higher scores than those of the control group in the acquisition of general teaching competence.

(b) The experimental group having 'instructional materials and skill-based feedback in microteaching settings' for one set of skills did not differ from the experimental group having the same for another set of skills, in the acquisition of general teaching competence.

Objective 5

24. The experimental group having 'instructional materials and skill-based feedback in microteaching settings' for one set of skills, the experimental group having the same for another set of skills, and the control group, did not differ significantly among each other in their attitude towards teaching.

Implications

Based upon the results, one of the major implications of the study is that microteaching under simulated conditions should be adopted as an integral part of student teaching programmes.

Teaching skills and general teaching competence should be developed among student teachers with the help of instructional materials and skill-based feedback in microteaching settings.

The present student teaching programme should be restructured and be made skill-oriented. The student teaching programme should have three broad phases: (1) a skill-based theory stage; (2) a laboratory stage; and (3) a school stage. At the skill-based theory stage, student teachers should undergo theory lectures which will provide a strong base for teaching skills. At the laboratory stage, student teachers should be exposed to teaching skills and their practice. At this stage, they should be introduced to the allied innovations of teaching, such as interaction analysis, use of different observation systems in the classroom, simulation, and role-playing, along with microteaching.

At the school stage, student teachers should visit actual classrooms and get practice in all the possible skills, with a view to integrating skills learnt at the laboratory stage.

Various patterns can make the laboratory stage functional and effective, but the best patterns will contain the following: (1) practising of skills in microteaching in simulation with peers; (2) practising of skills in microteaching with pupils; (3) practising of the integration of skills in simulation, and (4) practising of integration and transfer of skills to the real situation in the schools. These skills will help in developing general teaching competence among student teachers. Before entering the classroom, the teacher will be sufficiently equipped with teaching skills and aware of their use in different situations.

Timetabling of the laboratory stage can be in accordance with the availability of the buildings, staff, the level of the programme, the convenience of student teachers, and so on.

During the laboratory stage, three points should be considered regarding skills of teaching, sequencing of skills and integration of skills. Those skills should be selected which are easy to practise, functional and which need small groups for practice. Skills must have logical and pedagogical bases. For meaningful integration, a set of interrelated skills can be practised. As well, teaching skills should be integrated and practised in a micro-situation as a preparation for normal classroom teaching.

The pupils, peers, co-operating teachers and college supervisors can provide feedback in microteaching settings. As college supervisors cannot devote all their time to the student teachers, other sources of feedback can also be used.

Micro-lessons need special attention. These lessons should maximise the development of the skill of teaching. The pattern or format of microteaching should be properly conveyed to the student teachers.

Student teachers should be well acquainted with different role-playing techniques and their educational bearing upon development of skills.

Evaluation formula for each skill should be developed. Every teaching skill needs to be defined and evaluated in behavioural terms. Inter-observer reliability should be established.

All the student teachers in a class are not of the same intellectual level. Microteaching in simulated conditions can prove to be an effective training technique for those who experience difficulty in acquiring competency in teaching techniques under regular teaching conditions. Therefore, diagnostic and remedial measures should be adopted in colleges of education, with microteaching in an integrated programme of teacher training

Suitable instructional materials in the form of handbooks should be prepared for the remaining teaching skills. These materials should be developed on a large scale and may be made available to the student teachers as their first exposure to skills in teaching. This should be undertaken by the training institutions of the states, the universities and other national organizations. Along with the handbooks, the training institutions should develop models, either symbolic, or audio or film, depicting the use of different skills in the context of the Indian classrooms.

Training and extension programmes should be started for speedy implementation of new ideas in microteaching. Principals of the training institutions must be properly oriented and this orientation should be related to administrative aspects and feasibility in different settings and situations. Teacher educators also need intensive training in the various approaches to student teaching, technical skills, and the organization of micro-lessons. The staff should also be made conversant with the new techniques of classroom interaction analysis, simulation, role-playing and feedback.

Microteaching may be introduced into the in-service programmes of teacher training. Microteaching clinics may be started at different places. Such micro clinics may be started without video-tape which is costly. Other software materials such as audio-cassettes, and films can easily be used in these clinics.

Suggestions for further study

Though microteaching seems to be one of the most promising innovations of teacher education in recent times, many aspects are still unexplored. In view of the present study, the following areas for further study can be suggested:

1. More studies are needed to identify the teaching skills required to make an effective classroom teacher. Though some efforts have been made in this direction by Lalita (1976), it has yet to be validated for India.

2. The categories and hierarchy of teaching skills require exploration.

3. More studies can be undertaken to see the effects of any one of the following variables on microteaching: changing the number of students; duration of the lesson; modelling; symbolic/perceptual/audio; simulation/real settings; and pupil/peer/college supervisor.

4. There is a need to study the transfer of general teaching competence from microteaching to normal classroom teaching.

5. Studies in cost effectiveness of microteaching can also be conducted. Wherever microteaching has been introduced as a training technique, cost effectiveness may be studied in terms of time, money and pedagogical outcomes.

6. Last but not least, some studies can be conducted where the effects of microteaching as a training technique can be measured in terms of pupils' achievement and pupils' gain.

INDIA:
MICROTEACHING AS AN EDUCATIONAL INNOVATION FOR THE TRAINING OF TEACHERS

by

B.K. Passi, Sushma Bhagia, and Shalini Bhouraskar

Context

Researches carried out by many Indian educators show that in India there is growing dissatisfaction among educators regarding the existing practice teaching provided by the training institutions to the student teachers.

The student teachers and educators are facing many problems in the existing practice teaching programme. The student teachers are sent to the schools before acquiring or practising teaching skills and therefore do not develop adequate confidence in themselves. Again, the feedback in the form of notes on the supervisory notebook, is not found very useful to student teachers. As well, the traditional methods of planning lessons usually brings monotony. Microteaching was, therefore introduced to a small group of B.Ed. student teachers studying in the Department of Education, University of Indore, Indore, during 1976-77. The purpose was to investigate the feasibility and effectiveness of microteaching as a technique of teacher training in an Indian situation.

Background

The project of 'microteaching technique in student teaching' as an important educational innovation was introduced in the last week of November 1976. The sample for this project was 180 student teachers of the Department of Education, University of Indore, Indore. The NCERT (Delhi),Centre of Advanced Study in Education (Baroda) and the Department of Education, University of Indore, Indore, were the agencies involved in the project. Three staff members of the Department of Education, Indore, who had knowledge of microteaching actively participated in the project. The project lasted approximately four months.

Objectives

1. To discover the administrative feasibility and the requirements needed to start microteaching in the Department of Education along with other training techniques.

2. To study the effect of the two procedures of feedback, namely, supervisory feedback and peer feedback, on general teaching competence and attitudes of student teachers.

3. To study the reactions of the student teachers to microteaching and feedback techniques.

Innovative features of microteaching

1. In traditional student teaching programmes, a global approach is adopted for teaching and feedback. In microteaching separate practice is given on the different skills required for teaching, and feedback is also provided separately for each skill.

2. In traditional teaching practice the student teachers are sent directly to the schools without doing any practice in the training institutions. In microteaching practice is first given in the laboratory situation whereby the students gain confidence.

3. In traditional lesson plans a complete ten-minute lesson plan is prepared while in microteaching the lessons are planned for very short duration. Hence, the student teachers get more effective training in the skills.

Development

The project started after selection of 20 students from the college with the help of the three staff members of the Department of Education, University of Indore, Indore. The project developed along the following steps:

1. Giving knowledge about five different skills:
   a) probing questioning,
   b) stimulus variation,
   c) reinforcement,
   d) explaining, and
   e) illustrating with examples.

The lectures on each and every skill were followed by printed booklets containing descriptions of the components of the skills.

2. Giving model lessons on each of the skills.
3. Providing guidance for preparing lesson plans.
4. Doing supervision during teach/re-teach sessions (2 cycles)
5. Giving individual as well as group feedback.

The reactions and attitudes of the student teachers towards microteaching were also studied by interviewing the student teachers, by unstructured observations and by giving them an attitude inventory.

Resources

This was a sub-project of the national project planned at the CASE with the collaboration of the NCERT. NCERT provided assistance of Rs. 200[1] and the required test materials.

Full co-operation and guidance was provided by the Head of the Department. For practice teaching, the school and other physical facilities such as the required three rooms were provided. During experimentation, investigators were kept free from other usual duties because they were busy for the whole day with the microteaching group.

Evaluation

Before and after the experiment the student teachers were brought into a school setting. Evaluation was done there on the basis of BGTC (Baroda General Teaching Competence) and ATAI (Ahluwalia Teacher Attitude Inventory). Students' reactions were collected through interviews. Unstructured observations on the project reveal that:

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[1] 8.05 Rupees = 1 US dollar.

1. The microteaching technique is more effective than the traditional training technique;

2. Feedback given by college supervisors has no superiority over the feedback given by peers; and

3. The reactions of the student teachers are more favourable to microteaching than to traditional training techniques. The highlights of the student teachers' reactions are presented below.

Microteaching as a useful training technique

Almost all the student teachers found microteaching a novel and scientific technique and very different from traditional teaching. Many students were happy with the freedom given to them during the experiment to select any topic of their choice in which maximum use of the skill under practice could be made. Almost all the pupil teachers were of the opinion that there had been an improvement in their teaching technique after participating in the experiment. Many student teachers felt that they had been using these skills unconsciously and now they knew the scientific basis for developing these skills and also the correct manner of using them. All the student teachers felt that the time duration of six minutes per lesson, and two lessons for practising each skill were not sufficient.

Skill of probing questions

This skill is very useful as it helps to probe deeper into the mental faculty of the pupils. Some student teachers felt that this skill, if used properly, would help them to develop deeper insight into pupil behaviour and keep them mentally active. Regrading this skill, most student teachers felt that they would be able to draw in shy students with prompting and at the same time satisfy the intelligent students by asking them questions of increasing critical awareness.

Skill of stimulus variation

This skill was not new to most student teachers as they had been unconsciously making use of this skill previously. After the experiment in microteaching they had gained better understanding of the importance of this skill in making classroom teaching more effective and interesting.

Skill of reinforcement

This skill satisfies the urge for social approval by the students and gives them confidence. Almost all student teachers realized the important role the use of this skill could play in encouraging shy and backward students. Student teachers were of the opinion that they should be allowed to use negative reinforcement too to keep the students under control.

Skill of illustrating with examples

Most student teachers found this skill very useful and effective as it enabled them to use charts, slides, demonstrations, experiments and other audio-visual aids. They also realized the importance of using these aids intelligently and carefully.

One student teacher is of the opinion that the inducto-deducto approach followed in this skill (examples-rule-examples) would not be easily grasped by weak students. The rule therefore, should be spelt out first.

Skill of explanation

This skill was practised in the context of a cause-and-effect relationship. Almost all the student teachers felt that with the use of this skill they would be able to make the subject matter more interesting and easily understandable.

Integration of skills

There was a unanimous suggestion from all the student teachers that the time devoted to the integration of skills was too little. They felt that more time should have been given to this aspect to enable them to make proper use of the above five skills in an integrated manner.

Component skills approach

Almost all student teachers found this approach suitable for learning various skills.

Playing the role of students

Many student teachers were of the opinion that it was difficult for B.Ed. students to play the role of school children and this lent unreality to the atmosphere in the micro-class.

Feedback system

All the student teachers felt that immediate feedback gave them insight into their performance. Some student teachers were of the opinion that peer supervisory technique is suitable for intelligent and above-average student teachers who would like to know their shortcomings and welcome any suggestions for improvement. There was strong agreement among the student teachers of both the groups in favour of immediate feedback and group discussion towards helping them better their performance.

Almost all student teachers felt that they were more confident when they went to schools after the course in microteaching, but they would have liked more lessons and time in practising the various skills. Many felt that microteaching should be made compulsory for the B.Ed. course.

There was a difference of opinion on this point, however. Some student teachers were of the opinion that microteaching should replace traditional teaching and others felt that microteaching should supplement traditional teaching.

Some inhibiting factors are mentioned below.

a) In the beginning, students were reluctant to receive training through microteaching techniques.

b) There was an initial resistance on the part of some members of the staff, arguing that it was time-consuming and artificial.

c) Student teachers had some difficulty in integrating the different skills.

INDIA:
PROGRAMMED LEARNING FOR TEACHER PREPARATION

by
M. B. Buch

Background

The Centre of Advanced Study in Education (CASE), recognised in 1964, aims mainly at making the training of teachers more effective. The teacher education programme at the Centre comprises several dimensions–admissions, framing of courses, curriculum, deciding instructional media, evaluation and student teaching. It has been on the look-out for a programme that would introduce flexibility in its structure and would give a greater freedom to teachers. Many innovations have been thought about in different dimensions of teacher education with a view to vitalizing the entire teacher education programme; educational technology is one such dimension. It was thought appropriate to demonstrate the use of programmed learning for training the teachers.

Objectives

1. To acquaint the trainees with this new technique of programmed learning.
2. To provide efficient instruction in a course through the use of well-developed programmed material.
3. To demonstrate in a live situation how programmed learning can be put to use in a programme of teacher training.

Implementation

Programmed learning, by name, first occurred in the record of the Centre as early as 1963-64 when it was included as a minor topic in audio-visual education at the B.Ed. level. Later, what started as a small experiment in 1972 resulted in the introduction of programmed learning as a course for M.Ed. students. This innovation however remained mostly at the research level. The Centre was planning to demonstrate the use of programmed learning for training teachers. It could do so by developing a course and giving theoretical lectures. In the year 1972-73, a major experiment to test the effectiveness of programmed material in the area of evaluation and measurement in contrast to teaching by the traditional approach was planned. The entire course of evaluation and measurement was programmed.

The B.Ed. class was divided into three sections. One group was taught in the traditional way, another was given mimeographed papers containing major points along with lectures, and the third was given programmed materials and no lectures. The experiment was conducted for one entire semester. The results revealed significant achievement gain by the programmed learning group.

The programme was revised and re-edited. Since 1976, all trainees are taking the course in evaluation and measurement through programmed material with a monthly seminar to discuss what they have learned. Now a new programme is being developed for M.Ed. students to teach some of the difficult concepts in the course on research methodology.

Impact

This innovation has shown that it is possible to provide efficient instruction in a complex course like evaluation and measurement, through the use of well-developed programmed material. It has also shown that it is possible to save the time of senior staff members through the use of programmed material.

Specific features

The presence of experts in programmed learning, a strong research base in the area and the strong desire of the Centre to win allies for this innovation by the actual application of programmed learning in teacher education has made the innovation possible.

INDONESIA:
THE PROGRAMMED INSTRUCTION PACKAGE 'A'

by
Sawali Woyolukito

Introduction

The population of Indonesia is 135 million which are distributed among more than 3,000 inhabited islands. More than 80 per cent of the people live in villages. A large number of these people are illiterate, living in ignorance and poverty. The number of illiterate people is about 26.5 million or 26.9 per cent of the population age 10 years and above. In 1977 about 27 per cent of the popuation in the age group, 7 - 12 years (about eight million children) did not have the opportunity to receive education. As well, 60 per cent of primary school children (about 10 million) are drop-outs and do not, therefore have sufficient basic education.

The second Five-Year Development Plan regards education as a life-long and continuous process of acquiring knowledge, skills and attitudes conducive to the improvement of the quality of life of all citizens. The policy on human resource development is to prepare comprehensively the younger generation for a productive and useful role in the economy and society. For this purpose the Indonesian Government has adopted a strategy for the intensification and expansion of opportunities for study through a school education system, normally termed the 'formal education system', together with a 'non-formal education system' for study outside the school. The objective of non-formal education is to provide learning opportunity to those outside the reach of the traditional school system and to those who are in need of educational content different from that which the schools provide.

To translate these concepts into action the government had developed several 'packages' of learning materials to meet the basic learning needs of out-of-school children, youth and other interested learners, and assist in the formation of learning groups and learning centres to facilitate non-formal learning.

Project description

The learning packages, specifically package 'A', are self-learning materials, programmed in construction, which are placed in the hands of illiterate youths and adults, school leavers and drop-outs for their use in self-study under the guidance of tutors.

Packages

The following learning packages were prepared or will be prepared:

1. Package 'A' for illiterates, new literates and primary school drop-outs (already prepared);

2. Package 'B' for those who have completed package 'A' and for drop-outs from Junior High Schools (to be prepared); and

3. Package 'C' for drop-outs from Senior High Schools, and those who have completed package 'B' or its equivalent (to be prepared).

Learning package 'A' is designed to meet seven elements of essential basic learning needs.

1. Spiritual values based on the belief in God Almighty.

2. Sense of mutual help, sense of tolerance, acquisition of critical and logical views and a democratic way of thinking. These attitudes are to be maintained in family life as well as in community life.

3. Functional capability in reading, writing and speaking in Bahasa Indonesia (Indonesian language) and in arithmetic so as to be able to:

- read magazines, newspapers, and booklets on agriculture, health, etc; and
- write simple personal and official letters; measure area, calculate loan-interest and estate rent, etc.

4. Basic knowledge and scientific view on the maintenance of the ecosystem, relationship between sanitation and health, methods of farming and animal husbandry, food production, nutrition, etc.

5. Application of knowledge and skills on family health, family planning, child care, nutrition, sanitation, nursing, management of a household budget, sewing, house repair, recreation, sports and other social activities.

6. Application of knowledge and skills to raise income especially in the field of agriculture.

7. Active participation in community life and the knowledge of national and local history, the rights and duties of citizenship and of taxes as the financial recources of the nation, of existing social services and of the objectives and functions of co-operatives, etc.

Revision of the draft manuscripts

The revised draft was presented to the Committee for its comments and suggestions and then field-tested among learners similar to the ultimate target groups of package 'A'.

The manuscripts were further revised based on the feedback from the field-testing. Then, the final draft of the manuscripts was presented to the Committee for its approval. Following its clearance, the materials were produced in the reqquired quantity.

While most of the learning materials were in the form of printed booklets, cassettes, slides, posters, and 'how to. . . .', pamphlets will be prepared for selected topics and target groups. It has been emphasized in the guidelines that as much as possible the materials must be self-instructional and prepared in a programmed style.

Initially learning materials for package 'A' were designed and produced at the national level in the national language. These materials were supplied through all available delivery channels for non-formal education all over the country.

It is envisioned that these materials will serve as prototypes. Appropriate modifications will be made in the packages, locally or regionally, to meet the specific requirements of the learners.

How to study package 'A'

Package 'A' can be studied in several ways:

1. **Self-learning.** This method will be effective when the learners are no longer illiterate. A21 – A100 are booklets which are written in the form of self-instructional materials.

2. **Group-learning.** Booklets A1 – A20 will be studied together in a group with the help of a tutor.

3. **Learn from each other.** A learner can ask another member to teach him in a certain field and he may teach other group members any skill which he has mastered.

Objectives

The objectives of self-instructional materials are:

a) to provide the basic knowledge and skills for a more productive life and and good citizenship through the **basic education programme** and **family life education programme**; and

b) to develop information-seeking and problem-solving skills to facilitate effective use of government development services e.g. agriculture extension and other community resources.

Target groups

Participants in the learning group will be 10 to 45 years of age and will also be:

- Those who are illiterate;
- Those who have not had a chance to go to school;
- Those who dropped out from primary school; and
- Those who lack the basic knowledge and skills needed to improve their standard of living.

Expected learning outcomes

The programme will enable the target population to acquire the knowledge, attitude and skills which are considered the basic minimum essential learning requirements to functionally cope with the problems affecting their lives. Those participating in the programme will learn to read and write, or to improve their skill in these areas, and to utilize them for self-development (information seeking) and effective communication (problem-solving).

Materials preparation

A guidebook for the preparation of package 'A' has been developed by the Directorate-General of Non-formal Education and Sports and sanctioned by the National Technical Co-ordinating Committee (NTCC) for Non-formal Education. Various government departments, free-lance writers, illustrators and communication experts have been invited to help in the writing up of manuscripts.

Manuscripts for package 'A' were prepared in the following ways:

1. Collection of existing learning materials from:

   a) the various government departments and agencies relevant to package 'A',

   b) manuscripts prepared by various government departments and agencies in the field of their expertise as it relates to package 'A', and

c) manuscripts obtained through a nation-wide open-for-all competition prepared in accordance with the guidelines for package 'A';

2. Organization of a workshop by the National Technical Co-ordinating Committee (NTCC) Secretariat to prepare manuscripts on the subjects (for which not enough materials are obtained through the above sources;

3. Review and screening of sample materials and manuscripts which is carried out by a working team of the National Technical Co-ordinating Committee (NTCC), and

4. Practice learning where the learner learns by practising the skills or knowledge presented in package 'A' from others who have been trained.

Organization of learning groups

Learning groups were organized in every village throughout Indonesia. Community members, illiterates and drop-outs from primary school, were motivated and persuaded to become members of the learning groups. Those who were motivated and interested were registered and divided into groups of six to ten people.

In each group one member is chosen as leader of the group and leads the discussion.

Training of tutors

In the implementation of the programme several levels of training of tutors has been carried out and will be continued until the programme has been implemented throughout the country.

Organization of training

Training is undertaken at three levels, national, regional, and local.

Training at national level emphasizes group work and practical activities. The objective of this training is to enable the participants to organize training programmes at lower levels. The curriculum for this training includes such skill areas as:

1. Organizing learning groups,
2. Identifying and selecting tutors and monitors,
3. Developing learning programmes,
4. Implementing the package 'A' programme,
5. Monitoring learning activities and
6. Developing supplementary learning materials.

As an outcome of the training, the participants will produce materials in the form of manuals, such as:

1. A manual of using package 'A' booklets;
2. A manual of organizing learning groups;
3. A manual of distribution and filing of package 'A' materials; and
4. A guide-line for conducting training.

There are several types of personnel to be trained:

1. Volunteers. These people are not professional teachers or instructors.

They will function as tutors, discussion leaders, learning-motivators, identifiers of learning needs and learning resources, and organizers of the group activities. They are facilitators of group learning and self-learning. Before taking up their role the volunteers will receive a short training of about ten days duration.

2. Sub-district supervisors. They are community education field-workers in the sub-district and they serve as the educational field managers for learning package 'A'. He or she will help organize learning groups, train their leaders and provide them with materials and ideas. In ten selected areas and seven municipalities the government in co-operation with Unicef, will make available to the sub-district supervisors some basic equipment for the production and reproduction of learning and training materials including a typewriter, a mimeograph machine, a radio-cassette player, etc.

3. Head of community education, sports and youth section at district level. He has the responsibility for administration, programming and training of the non-formal education volunteers and learning group leaders in the field. The existing community education training centres will be strengthened and will be placed under the direct supervision of this official. Utilizing the training centres and other facilities and resources available in the districts will provide institutional services, technical assistance and material support to the sub-district supervisors, and through them to the learning groups in the villages.

The sub-district official will be supplied with a mobile printing unit and other basic equipment for production and reproduction of learning and training materials.

Target personnel to be trained

The personnel to be trained in the short term as well as in the long term are as follows:

Volunteers	:	3,000,000
Sub-district supervisors	:	3,323
District supervisors	:	282
Provincial staff members	:	54
Total	:	3,003,659

Of this number the Directorate of Community Education has trained so far:

Volunteers	:	1,700
Sub-district supervisors	:	222
District supervisors	:	49
Provincial staff members	:	22
Total	:	1,993

Despite the large number of personnel still to be trained and the high costs in terms of time and money, the government has seriously taken into consideration the problems of illiteracy. In his speech before the People's Assembly on 16 August 1978, the President of Indonesia announced that package 'A' programme will be implemented at the national level as another form of compulsory education for out-of-school children.

In the third Five-Year Development Plan starting in 1979, package 'A' programme will become a national programme and will be implemented throughout Indonesia.

Establishment of learning centres

The formal Community Education Training Centres have been modified to be used as learning activities centres. These centres will be under the direct supervision of the district supervisors (Head of Community Education, Sports and Youth Section) and will serve not only community education but also sports activities and youth affairs.

The function of these centres will include the development and production of non-formal education instructional materials, provision of regular in-service training of sub-district supervisors, and monitoring and evaluation of non-formal education activities.

Provincial centres will be developed and will function to produce learning materials, provide in-service training for all staff within the province, and implement an evaluation scheme for provincial programmes.

National Training Centre

The National Training Centre is under the administrative and technical supervision of the Director-General of Non-Formal Education and Sports. Its functions include:

1. Develop test and disseminate prototype training models, printed learning materials for package 'A' and evaluation designs and instruments, and provide training for provincial NFE staff;

2. Administrate and supervise the national resource centre and promote the exchange of ideas and information domestically and nationally; and

3. Supervise the regional distribution centres and train volunteers (tutors, monitors, facilitators, etc) as the implementors of the package 'A' programme in the villages.

The curriculum for this training includes:

- developing training programmes,
- evaluating package 'A' materials for further improvement,
- developing the technique for using package 'A' materials,
- monitoring package 'A' activities,
- developing supplementary materials,
- distribution, filing, and maintaining of package 'A' materials,
- identifying and selecting tutors and monitors, and
- organizing learning groups.

The expected outcomes of the training will be:

a) a training programme for volunteers;

b) guidance for the implementation of learning activities; and

c) some supplementary materials adjusted to their own local conditions.

Emphasis will be given to group work, practice activities in the field and visiting learning groups.

The volunteers (tutors, monitors and learning facilitators) will receive training at the local level before they operate in the villages. The objective of this training is to enable them to organize learning activities with the use of package 'A' materials.

The curriculum for the volunteers' training includes such areas as:

1. Identifying learning needs;
2. Identifying and mobilising learning resources; and
3. Organizing and supporting the process of learning in a group.

The desired outcome of the training is field-workers skilled in using package 'A' materials in the transfer of learning activities.

The materials used for the training are learning package 'A' materials, teacher manuals, textbooks, audio-visual aids and evaluation forms. The training emphasizes participation in discussions, demonstrations, simulation teaching, and study visits to farms and workshops.

Evaluation

The present programme is an ambitious new venture which has not been tried before on such a large scale. It is therefore extremely important that continuing review and evaluation be made to ascertain the effectiveness of the programme at each stage of implementation.

For this purpose a draft evaluation design has been developed and will be implemented soon. The evaluation will cover the whole programme including the training activities. Progress in the implementation of the programme will be reviewed from time to time and necessary changes and adjustments made.

Problems and issues

Problem 1: Difficulty in preparing the learning packages.

Strategy: (a) develop a model, and provide a guide for writers so that learning packages will be written according to a standard format; and (b) Get well-trained teachers to work on committees to write portions of the package. These teachers should receive extra honorarium for serving on the committees.

Problem 2: Difficulty in recruiting volunteer tutors.

Strategy: Enlist civic organizations to send their members to serve as tutors as part of their community service.

Problem 3: Insufficient copies of learning packages.

Strategy: Secure the help of big business and industrial concerns to donate funds for the printing of learning packages in their own districts.

SINGAPORE:
THE USE OF CCTV TO UPGRADE COMPETENCE IN CLASSROOM EVALUATION AND TEACHING: A CASE STUDY

by

F.C. Chew-Chua and Oliver B.H. Seet

Problems and issues

There are two areas of major concern in the Singapore educational context: the first involves the reorientation of the school system towards pragmatic objectives and the second concerns measures undertaken to meet the teacher shortage, the retraining of teachers and the improving and maintenance of teaching skills.

Restructuring the education system

Primary education in the Republic has already been universalized: it is free for all pupils. In order to minimize educational wastage and to provide a more meaningful education for all pupils according to their abilities, however, the entire school system is being restructured beginning with the primary level. Pupils who are unsuitable for academic courses are identified and channelled into the basic course which prepares them to join the Junior Training Scheme (JTS). The basic course incorporates a basic academic component with a functional orientation, specific vocational courses and an apprenticeship programme.

The basic course, as an alternative to the standard primary course, commenced in 1977. Before launching the programme, it became necessary first to orientate teachers to the programme. Short orientation courses were organized which explained the rationale of the course, its curriculum, the psychology of slow learners, the junior training scheme, the world of work attitude formation, human relationships, behavioural problems and principles of counselling. A workshop for school principals whose schools were to be involved in the programme was also held. More teachers will be selected for the orientation programme in the near future so that the programme can be fully implemented. A further course to supplement the orientation course is being planned.

The success of the scheme must depend on a number of factors, one being the teacher's ability to accurately discern the abilities and potential of each pupil. Consequently, it became necessary in 1975 to organize a mass retraining course on evaluation for primary school teachers. It is this project that we present as a case-study for the consideration of this study group.

Teacher shortage

There is currently a teacher shortage in Singapore; in order to meet this shortage, various measures are being employed to attract new recruits. A campaign to highlight the attractions of teaching as a profession is being planned at the moment.

Allocation of teachers

Another related problem is the falling enrolment in the non-English medium primary schools; it is evident that an increasing number of parents prefer to send their children to English-medium schools instead of the Chinese, Malay and Tamilmedium schools. Consequently, it has become necessary to reallocate teachers from the non-English medium schools. Those who have the basic language proficiency in English are being retrained in language media conversion courses in the subjects they specialize in. Those who do not have the minimum threshold level of English are being reallocated to other areas.

Improving the quality of teacher education

Improving the quality of teaching is a major concern of the Singapore Government. The approach used is to provide teachers with in-service courses which meet their needs. These courses encompass a whole range of activities; through these courses teachers can extend their personal education, develop their professional competence and improve their understanding of educational principles and techniques. While the emphasis is on the personal development of the teacher, there is also a need to help him adjust to changes and to new organizational objectives. To this end, political, social and economic awareness workshops have been organized for teachers.

In order to identify training needs and to co-ordinate resources and effort, an in-service committee comprising higher echelon representatives from the Ministry of Education, statutory bodies and other agencies concerned with teacher training, has drawn up a Five-Year Rolling Plan. This is a comprehensive plan covering in-service programmes over a five-year period. Flexibility, however, will be maintained as the plan will be reviewed and revised annually to accommodate changing demands for training.

The following are some of the types of courses offered to trained teachers:

a) A two-year part-time course for non-graduate primary school teachers leading to the award of an Advanced Certificate in Education which equips participants in content and methodology to teach at the lower secondary level.

b) English language courses (90 to 120 hours) to improve the language proficiency of non-graduate English-medium teachers.

c) Short modular courses in specific skills or content areas e.g. The use of photography in science teaching (7 hours), elementary hockey coaching and umpire course (24 hours), The teaching of structure and lexis in English (30 hours), and An introduction to Indian music (20 hours).

d) Courses to train potential administrators such as school principals e.g. the educational administration course (60 hours) run by the Staff Training Section within the Personnel Branch in the Ministry of Education.

   This course was introduced to provide expertise and information to potential principals, senior assistants and senior teachers. It seeks to equip participants with a basic knowledge and understanding of the general financial and administrative procedures of the new roles they have to play.

To date, eight such courses have been conducted. An approximate number of 40 participants make up each course. The course is conducted on a part-time basis. Participants attend courses two afternoons a week and the duration of the course is about three and a half months.

The content of the previous courses included general administrative procedures, internal school administration, and economic, social and political changes in Singapore. A new component, management principles and practices, has been added to the current seventh and eighth courses on school administration.

Lectures on political, economic and social issues have also been incorporated to raise the awareness of participants to enable them to interpret national objectives and policies. These additions help the participants to be better equipped to meet the challenges in administration; it makes them more aware of their increasing obligations and responsibilities.

The methods used in this course include:

1. Lecture-type sessions;
2. Panel discussions;
3. Viewing of films;
4. In-basket training;
5. Group dynamics;
6. Simulated games; and
7. Role-playing.

A number of the in-service courses offered in the country employ innovative approaches such as those listed above. Some utilize sophisticated hardware such as video-tape recorders (VTR), slide presentations with audio-equipment and language laboratories. One such course using hardware of this nature to advantage is the Advanced Certificate in Education Course (mentioned earlier) offered by the Institute of Education. In this course the VTR is used as part of the simulation teaching programme. This programme is described in a later section of the report.

Case studies

Two VTR programmes are presented in this report depicting different uses of media for the teacher education courses of the Institute of Education (IE) in Singapore. For those unfamiliar with the Singapore education system, the IE is the sole institution in Singapore conducting pre-service courses for teachers at all levels from kindergarten to pre-university in all the four official language streams. It is also responsible for conducting the bulk of the in-service courses for teachers in the Republic.

The first programme

Background

The first programme presented in this report entitled **Evaluation in Language** is one of a series of 12 key video-taped lectures. These key video-taped lectures were part of a mass retraining scheme for primary school teachers to update their knowledge and skills in meaningful evaluation for educational progress.

Objectives

For the two courses conducted from April to October 1975 and from January to May 1976, some 3,500 primary school teachers who were identified and nominated by their school principals were trained. The objectives of these courses were:

a) to explain to primary school teachers the important implications which the restructured system of education holds for classroom practice;

b) to provide teachers with a basic knowledge of the various methods of evaluation and assessment; and

c) to enable teachers to produce various devices and instruments for evaluation and assessment.

Course content

The course dealt with the purpose and implications of evaluation, areas of evaluation, instructional/behavioural objectives, planning for evaluation, preparation of instruments and devices for evaluation, analysis of information and introduction to the use of reporting devices.

Strategy

A series of 12 video-taped lectures explained the basic concepts of the course. These video-taped lectures which were produced by the Educational Technology Department of IE and scripted and presented by staff from other departments covered the following topics:

1. Evaluation in context
2. Areas of evaluation
3. Objectives in evaluation part 1
4. Objectives in evaluation part 2
5. Instruments of evaluation
6. Evaluation in physical education
7. Evaluation in art
8. Evaluation in music
9. Evaluation in language
10. Evaluation in science and mathematics
11. Analysis of information
12. Reporting devices

Booklets containing resumes of the 12 telecast programmes were made available to participants and each telecast was supported by handouts and followed by discussion to highlight the main points of the lecture. Each session lasted two hours. The approach used was essentially one of lecture-cum-workshop but where the practical workshops were involved depended on the overall strategy of the course.

GIVING ORAL PRESENTATIONS

LISTENING is not the only function of language for your pupils although there are some teachers who forget this. Pupils also should give oral presentations, tell their own stories, give accounts of personal experiences or reports of actual happenings.

RESPONDING ORALLY TO QUESTIONS

There are many occasions during lessons when you will ask your pupils questions.

How do they respond to your questions?
Do they answer promptly?
Accurately?

CONVERSING

A primary function of language is to enable two or more people to communicate socially or in the line of duty. Pupils learn to do this early in their mother tongues with the peer group as well as with their elders. Do they do this with equal facility in the language of instruction with their teachers as well?

PASSING MESSAGES

There will be many occasions when a pupil is required to pass a message to another teacher or pupil or perhaps to his parents. You will want to make sure that he can do this properly.

ASKING FOR INFORMATION, MAKING REQUESTS

LANGUAGE is a means by which pupils learn more about the external world. It is the means of obtaining information. This can be done orally, for instance, when pupils ask you questions about something you have taught or are teaching. They would also have certain questions in mind when they look up a reference book, for example. Language is a means by which we ask for permission to do something, or request for help.

READING WRITTEN MESSAGES, TEXTS

Besides listening and speaking, pupils learn to read. They become literate and you want to find out the degree of their literacy. Can they read notices put up on the notice board, words written on the chalkboard, signboards? How well can they read story books? Can they read their textbooks, informational materials, test questions?

ORAL READING, RECITATION

There are also certain performing skills that you want your pupils to acquire, such as reading or reciting a poem aloud in front of the class or reading out a passage or a part in a dialogue from a textbook.

WRITING SENTENCES, ANSWERS

Finally, you will want to test your pupils' ability to write sentences, to label pictures, to spell correctly, and to write answers to questions set in class or in a test.

Each workshop was devoted to particular tasks planned in advance. Each workshop group was made up of 40 participants.

A semi-permanent exhibition of profile charts, evaluation techniques and reporting devices was built up as a point of reference for participants.

Evaluation in Language

It is against this background that the video-taped lecture on Evaluation in Language is presented for viewing and discussion.

The intention of the script-writer was to provide orientation to the language teachers in the four language medias in the task of meaningful evaluation. Subsequent to the practical workshops that followed the viewing of the programme, a booklet was compiled containing examples of test items for English language achievement tests (primary level). This booklet provides an inventory of the types of tests that teachers might set for their pupils.

VTR SCRIPT ON 'EVALUATION IN LANGUAGE'

Lecturer and script-writer: Oliver B.H. Seet
Producer: Chen Ai Yen
Floor Manager: Ronnie Chan
Moderator: Clive Scharen-Guival

EVALUATION IN THE SCHOOL

EVALUATION IN LANGUAGE

This is the ninth in a series of programmes on the whys and hows of evaluation for the restructured education system.

An eminent British linguist has observed that all 'educational failure is linguistic failure . . . the most immediately accessible cause of educational failure is to be sought in language'. While this may sound like a sweeping generalization, I believe there is much truth in it. Failure to master the language of instruction is the major cause of failure in the subjects in which the language is taught. Language is perhaps the most important subject in the whole lower primary curriculum.

LANGUAGE IS FUNCTIONAL

Language was invented to serve certain functions.

TEACH IT FUNCTIONALLY

Therefore, if it is to be made meaningful for your pupils, you must teach it functionally and test the effectiveness of your teaching by finding out if your pupils can use it functionally.

CAN PUPILS USE LANGUAGE FUNCTIONALLY?

THE FUNCTIONS OF LANGUAGE

What are the functions of language for your pupils or, to put it another way, what do your pupils use language for?

LISTENING TO INSTRUCTIONS

Pupils do a lot of listening in school, don't they? You want to make sure that they listen to your instructions accurately. Language, therefore, serves this very important function of conveying instructions.

LISTENING TO ORAL PRESENTATIONS

Pupils also listen to various types of oral presentations. These include stories, accounts of personal experiences, reports of actual happenings and explanations and expositions given in your lessons to your pupils.

LECTURER

Having identified these primary functions of language, we are in a better position now to design a more realistic language programme and to prepare more valid tests.

NON-FORMAL CONTINUOUS ASSESSMENT

There are essentially two forms of evaluation procedures that you could carry out in the lower primary.

FORMAL ASSESSMENT

The first is a non-formal continuous assessment procedure and the second a formal assessment procedure.

LECTURER

Let us discuss these in turn.

Non-formal assessment.

This is a type of assessment that you will conduct right throughout the year and, in a sense, it is probably the more reliable of the two. In formal testing you create an artificial situation to test the child who may be so put off by this that he does not do his best. Non-formal continuous assessment is done without the child realizing that he is being assessed.

How would you conduct this type of assessment with your pupils?

First, let's consider ourselves as teachers.

LIGHT METER

You see before you an instrument used for measuring different intensities of light. It is used by photographers to obtain the correct exposure for taking pictures. There are simple as well as sophisticated exposure meters. The more sophisticated one gives a more sensitive and accurate reading while the simple one will merely provide a crude reading. If you were a photographer which type of meter would you prefer? Of course the more sensitive and reliable instrument.

LECTURER

A good light meter evaluates the intensity or weakness of light measured. A good teacher, in a sense, is also a fine evaluation instrument. The fine sensors he has developed over the years help him to measure the degrees of proficiency his pupil has obtained.

What kinds of behaviour in language does a teacher assess then? Is there a convenient method of recording your assessments of the child's abilities?

Here are some of the behaviours that you can look out for in your pupils.

1. Ability to carry out instructions.
2. Ability to answer questions.
3. Ability to relate stories, etc.
4. Ability to converse.
5. Ability to read aloud.

Let us now consider these in turn.

1. Ability to carry out instructions.

You might call this an instrumental function of language. It is certainly an important ability that you need to develop in your pupils.

Can your pupils carry out instructions accurately and with reasonable promptness?

You might give an instruction orally.

TEACHER TALKING TO PUPIL IN CLASS

TR: Yoon Fong. Go to my table in the common-room and bring me my plastic ruler.

PUPIL: Yes, Sir (goes off and comes back with a wooden ruler.)

TR: No! I said my plastic ruler! Not this.

LECTURER

The pupil has brought the wrong object. This shows that he has not been able to follow instructions accurately.

Here is another situation.

Pupils in the gym during a PE lesson. The teacher gives an instruction in Malay. They respond.

Do the pupils respond correctly according to the instructions of the teacher?

LECTURER

There are lots of other classroom situations where you will have to give oral instructions. Note the behaviour of your pupils individually. Does the pupil you are assessing respond correctly generally or does he have difficulty in understanding even simple instructions?

Some instructions are given in writing. In arithmetic, for example, a child encounters a problem.

1. Instructions for a problem. Measure the length of each of the following in centimetres: (Show a ball-point pen, a nail, a pencil, a pen-knife, a needle, etc)

Does he understand what he is required to do in this problem just by reading it, or does he need to ask you for help constantly? Does his work show that he has understood the instructions?

DON'T RATE ON ONE INSTANCE ALONE

LECTURER

In assessments of this sort, you should be careful not to rate a child purely on one solitary instance alone.

Consider other instances as well before you form an opinion about the child.

FIRMLY FORMED IMPRESSIONS

An assessment mark then should be based on firmly formed impressions about the child's ability and not on first impressions. First impressions often turn out to be worng. You begin to assess your pupils only when you have got to know them well.

Let us consider other behaviours that you will assess.

2. Ability to answer questions.

Can your pupils answer questions based on stories, accounts of personal experiences, reports of happenings and events, and explanation and exposition given by you during lessons?

ANIM WORD BY WORD

a) ACCURACY
b) FLUENCY
c) GRAMMATICALNESS

Can they answer accurately, fluently and grammatically?

CLASSROOM. The teacher has just told a story. She asks question in Chinese. Various pupils respond.

Here is a typical situation. The teacher has just finished telling a story and is now questioning her pupils to see if they have understood the story.

(DRAMATISED SITUATION IN CHINESE)

Some children are able to respond quickly and accurately, some seem to be inarticulate and some others seem to know the answer but have difficulty in answeing the questions fluently.

ORAL ACCOUNT – ORAL RESPONSE

LECTURER

You will have lots of opportunities to assess your pupils in this way. And the criteria are accuracy, fluency and grammatical sense. During a lesson, after explaining something in science, for instance, how does each child respond to your questions?

What we have just discussed applies in a situation where there has been an oral account by the teacher followed by oral responses to questions by the pupils.

ORAL ACCOUNT – WRITTEN RESPONSE

LECTURER

There would be situations when having explained something orally, you require pupils to write down their responses.

In assessing their performance in this kind of situation, you are evaluating their ability to 'translate' from one medium to another–from the oral to the written form.

SILENT READING – ORAL RESPONSE

On some occasions, you might ask your pupils to read a story, a passage or a text silently. This is then followed by oral questioning. You are testing your pupils' reading comprehension.

SILENT READING – WRITTEN ANSWERS

Alternatively, you might ask your pupils to write out the answers to your questions based on the passage which they have studied silently. This is like a formal test except that on such occasions, you are not imposing a time restriction or formal test conditions.

a) Oral Account – Oral Response
b) Oral Account – Written Response
c) Silent Reading – Oral Response
d) Silent Reading – Written Response

To summarise then, there are four types of responses:
a) An oral account by the teacher followed by oral questioning;
b) an account by the teacher followed by written answers to questions;
c) silent reading of a passage followed by oral questioning; and
d) silent reading followed by written answers to questions.

Teacher asking pupils to relate news of interesting things that happened in the course of the week. (In Chinese)

LECTURER

Let us look at the third type of ability that you might want to evaluate. Here is a classroom situation. The teacher is asking her pupils to relate news of interesting things that happened in the course of the week.

(LIVE SITUATION DRAMATISE)

LECTURER

How does each child perform? You would consider his willingness to speak, his fluency, as well as manner of delivery.

Besides oral ability, you will want to assess your pupils' ability to write the language grammatically and with ease. This ability is assessed in the written work you set your pupils to do during the writing lesson. What kind of things would you get your pupils to do?

3. Ability to
   - a) Relate stories
   - b) Give accounts of personal experience
   - c) Describe events

The two other abilities perhaps might be assessed regularly

4. Ability to converse

The ability to converse is probably the most important language function. We often judge a person's language proficiency by his ability to converse fluently. This is an important social function of language. It is best assessed in informal classroom situations or in situations outside the classroom. Try to engage your pupils in conversation and assess their ability informally.

We have been looking at the various types of behaviours for assessment separately but now let us put them together into a convenient format.

RECORD SHEET

Here is a record sheet that you could prepare and use.

In the vertical columns you see the behaviours that we have been discussing listed

The names of your pupils are listed along the horizontal columns. Against each name and in each cell, you will put your assessment mark for each of the behaviours we have just discussed.

Enter a mark into a cell only when you have formed definite impressions about each pupil's abilities.

What kind of marking scale can you use? Here is a scale that has been found to be quite reliable and effective.

MARKING SCALE

5	Excellent	
4	Good	
3	Average	Ability
2	Poor	
1	Very Poor	

POINT AT NUMBER AS DIRECTED

This is a five-point scale. What is the mid-point in this scale? Yes, 3 indicates average ability. You will award 3 marks out of 5 to a pupil who is neither good, nor poor enough to merit a filing mark. If you feel that a pupil is definitely poor and below standard, you will award 2 marks and if you are sure that the pupil is really very poor, you will then award 1 mark. On the other hand, if a pupil is definitely above average, decide whether he is just above average or very much above average. Hence you can decide between awarding 4 or 5 marks. Don't be unwilling to award 5 marks to outstanding pupils.

Show teacher making a profile.

Make a profile for each pupil and this will then reveal to you his general language ability or competence.

FREQUENCY: ONCE A MONTH

LECTURER

How often will you fill in a record sheet like this? We suggest that you do this monthly for each child. You will then have a record of the progress made by each child at the end of the term and looking back in November at the year's work. You will have a useful record of the child's progress throughout the year.

BE IMPARTIAL IN YOUR ASSESSMENT

When you enter your marks at the end of each month, do not look at the previous month's record as this will tend to influence your assessment. Assess each child again independently. This will then show what progress each pupil has made since the last time you assessed him.

FORMAL ASSESSMENT

- periodic
- evaluate reliability of the continuous non-formal assessments
- varied

Let us now turn our attention to formal tests. These are given periodically. They have the function of evaluating the reliability of the continuous non-formal assessments that you make over a stretch of time. They can take many forms and certainly the exclusive use of formal written tests is most inadequate as these give an incomplete picture of the child's language proficiency.

LECTURER

We will now consider some of the formal test instruments that you can use. What we present here is by no means an exhaustive survey of the tools of testing language ability. Because of time limitations, we will only look at a sampling of these. In the workshop following this programme, you will, I'm sure, consider some methods of testing your pupils.

ORAL TESTS

Let us look at these tests which are primarily oral in nature. I say 'primarily' because many of these tests involve a number of other skills as well—like reading and listening.

Here is a situation where a pupil is required to read a message and convey it orally to the teacher who is the examiner in this case.

(LIVE DEMONSTRATION)

Pupil is handed a written message. Message is shown on the screen. Pupil enters the room and conveys message to teacher.

NAME	ACCURACY	EXPRESSION
Ang Ah Long	5	3

TEACHER ENTERS MARKS

Does he do this accurately? The teacher could rate him on the following bases: a mark for accuracy; and a mark for expression which is this case would include oral fluency and grammaticalness.

Use the same rating scale that was described earlier.

An alternative method of testing the child's ability to convey messages is to use a tape-recorder.

Pupil listens to message on a cassette tape-recorder. Enters and conveys the message to the teacher.

LECTURER

In the examination room, you might want to test the pupil's ability to carry out instructions. Here is an example of how this could be done.

INSTRUCTIONS

a) ORAL

b) WRITTEN

A variation of this is to have the instructions in writing. The pupil will then perform the action required and you can rate him on how accurately he has done it.

LECTURER

Oral tests can take many forms. The examiner can get a pupil to relate a story that he has heard or to give an account of an experience he has had. A topic from science, mathematics or education for living which has been taught could form the basis of your oral test. Alternatively, a conversation on a topic of interest would test your pupils' oral ability.

TEACHER AND PUPIL CONVERSING IN CHINESE

(LIVE SITUATION)

LECTURER

Here is a possible rating form for conversation.

NAME	PROMPTNESS IN RESPONDING	ACCURACY IN RESPONDING	FLUENCY	MANNER OF SPEAKING

Award marks for promptness in responding. Does the child take a long time to reply to simple questions or does he reply promptly? Consider the number of seconds he takes to respond. Secondly, does he reply accurately to your questions? Does he contribute relevantly to the conversation or does he digress very much? Does he speak fluently and grammatically? Does he speak in a stilted manner?

(LIVE SITUATION)

Teacher: What is your name?

Pupil: My name is Ang Kim Huat (Singsong manner)

The pupil here shows a poor knowledge of English intonation and ignorance of the appropriate response, which in this case is not

My name is Ang Kim Huat (imitate) but just 'Ang Kim Huat'.

WRITTEN TESTS

LECTURER

Next, let us consider those tests that involve writing.

Consider this type of test.

Pupils listening to a tape-recording of a story in Malay. The teacher then hands out a question paper (containing open-ended and objective-type questions) based on the story they have just heard.
have just heard.

Show an open-ended question and an objective-type question.

Note that pupils are given a mixture of open-ended and objective-type questions. Both types of questions may be used depending on what your objectives are. The multiple-choice question is a good method of testing comprehension. In the open-ended question, you are testing not only the pupils' comprehension but their ability to express themselves in writing. This should be taken into account when awarding marks since more than just comprehension is tested.

In this type of test, you are assessing two interrelated skills—listening ability and writing ability.

In addition to stories and accounts of personal experiences, the tape-recording could consist of oral messages which the pupils will then have to write out.

Another useful test is to get pupils to restore messages. Here is an example.
'Osman suka bola. Tiap^2 petang bermain adeknya.
Lepas bermain meraka minum

Language consists of a large proportion of redundant words. You will appreciate this particularly when you have to send a telegram overseas to a friend or relative. Every word costs money and the shorter you can make the message, the less you will feel the pinch in your pocket.

Please come home at once. Your mother is very ill and wants to see you.

How would you condense this message for instance?

(Show a hand crossing out words) Please come home at once. Your mother is very ill and wants to see you.

What words could you leave out?

You have reduced a 15-word message to six words, that is, you have reduced it to two-fifths of its length and yet managed to retain its meaning. What does this show? It shows that there are nine words out of the 15 which you might consider to be redundant.

Why does language have this high proportion of redundant elements? You might say that this is because the elements help to protect or preserve the message. We live in a noisy environment and much of what we say is obscured by ambient noise or perhaps by inattention. But as long as we can hear part of the message, we have the ability to restore it in its entirety.

CAN PUPILS RESTORE A 'DEFECTIVE' MESSAGE?

Anyone who is proficient in the language has this ability to restore a defective message – e.g. to supply the redundant elements.

Tests of this type can be prepared quite easily. You can test your pupils' knowledge of the language code systematically. Can they supply the correct prepositions, pronouns and articles? The 's' at the end of plural nouns and singular verbs? The '-ly' inflexion at the end of adverbs?

EXAMPLE IN CHINESE

A passage with blanks (supply type)

Look at the following example.

You must have realised by now that language comprises two basic components.

MESSAGE shown as a baby conveyed in a pram

The message is the meaning you wish to convey in the utterance, while the code is the vehicle for conveying that message – i.e. the vocabulary, the syntax and the grammar of the language.

The use of DICTATION

Dictation is another useful way of testing your pupils' ability to restore code and message. It also tests your pupils' ability to convert or translate the spoken form into the written form of language. It is certainly much more than a test of spelling.

SCENT as SENT

LECTURER

Let me set you a little test. Will you take down this sentence: 'I have scent for your mother and tobacco for your father.'

Now I am sure that some of you were puzzled. If you had written the word 'scent' as 'sent', you would have felt that the sentence was ungrammatical. You were using your knowledge of the code then and this told you that there was a mistake somewhere.

There are many signals in the written form of language that you do not normally sound and these constitute problem areas for your pupils. Consider this sentence:

He knocked on the door and entered.

How would you say it? 'He knocked on the door and entered' and not 'He knocked on the door and entered'? In dictating a sentence such as this one, you are testing your pupils' knowledge of the past tense form.

When doing dictation, choose sentences which contain grammatical items that you wish particularly to test. Your objectives must be clear. How should you dictate a sentence?

Teacher with a tape recorder. Operate the tape-recorder.

(on tape) 'He knocked on the door and entered.' (The whole sentence first and then) 'He knocked on the door' (pause) 'and entered'. (Then the whole sentence again) (On tape) same pattern:

'The boy jumped over his friend's back'.

In the second sentence, what is being tested besides spelling?

Knowledge of the past tense form and knowledge of the possessive case.

CREDITS

LECTURER

There are many other test instruments that I have not been able to describe in this programme such as preparing objective-type tests for various elements of grammar, vocabulary and syntax. Doubtless, you will discuss these in the workshop following this programme. (FADE SOUND & VISION)

The Second programme

The second VTR programme shown is of a different nature. It depicts the use of the VTR for self-evaluation and evaluation by others of teaching programmes in a simulated classroom situation.

In two mini-lessons on the teaching of poetry in lower secondary classes, two teachers attending the Advanced Certificate in Education course (ACE) at IE are shown in action before their peers. The ACE course is currently offered to trained non-graduate teachers; it is a two-year part-time course which has as its declared objectives the improving of teachers' knowledge of subject content and methodology for teaching in lower secondary classes. A component of this course requires teachers to participate in the simulated teaching programme. In this programme, each teacher is required to prepare and present either a short lesson or an excerpt of a longer lesson of about 15 minutes'duration. After the recording session, the participants are shown the play-back. The group, together with the lecturer in charge assesses the lesson according to the guideines on specially prepared forms and this is followed by a discussion session.

While not all participants look forward with eager participation to being video-taped, it has been found that there are some salutary effects. Participants are now more conscious of the teaching process and of their weaknesses and strengths through observing themselves and others in action and through appraising their own efforts as well as those of their peers.

The introduction to the teaching programme

In the preparation of new recruits for the teaching service, the CCTV facilities are also used for a similar objective.

All new students at IE go through a 30-hour month-long course entitled Introduction to Teaching. This course, conducted by the Educational Technology Department of IE with staff support from most of the other departments in IE, is essentially a preparatory course aimed specifically at getting new students ready for teaching practice. It is only after this initial preparation that students are posted to schools.

In this course there is an attempt to prepare students for the different kinds of problems and situations they are likely to encounter in schools. From giving them an overall view of the primary and secondary school organization in the Republic and preparing them for the first day in school, the course provides them with detailed information on how to prepare lesson plans together with sample lesson plans. Students are also required to present short sample lessons of 10 to 15 minutes duration in simulated classroom situations to demonstrate various teaching points. These are then discussed and evaluated by their peers and the lecturer in charge.

For further information, the Introduction to Teaching Handbook for Pre-Service Students prepared by the staff of IE which is obligatory reading for all new students provides a fairly detailed account of the approach used.

THAILAND:
MICROTEACHING IN TEACHER PREPARATION AT PRANAKORN TEACHERS' COLLEGE

by

Phungchai Sindhavananda

Introduction

Among several educational problems in Thailand, one considered quite important is the problem of the teaching-learning process. Many studies have concluded that most elementary teachers usually rely on whatever textbooks may be supplied, and they teach the contents of the books chiefly through the process of rote memorization. They do not prepare activities for their pupils which would encourage a desire to learn, nor do they encourage the students to think and find solutions to problems by themselves. As a result, pupils generally have low levels of achievement in their education; for instance, 34 per cent of those who have finished elementary level are unable to read.[1]

With these ideas in mind, Pranakorn Teachers' College has focused considerable attention on the problem of how best to provide experiences which will assist student teachers to develop insights into the complex tasks which confront classroom teachers.

Many studies concerning teacher preparation have stated that practice of teaching situations should be stressed.[2] What should be done is to narrow the gap between theory and practice. Traditional programmes tended to store up in student teachers knowledge which must be recalled in their practice teaching. Therefore, it is not uncommon to find that students can neither apply what they have learned of theory in their teaching practice nor cope with the issues in their teaching situation.

One way to fill in this gap is to give the students a chance to practise the skills needed to become competent teachers. They can acquire their skills in a situation closest to reality before they actually begin their practice teaching. Therefore, a microteaching approach is called for in the programme of teacher preparation.

A study of microteaching techniques suitable for the situation and resources in Thai teachers' colleges.

Aware of the many failures in adapting some imported techniques to a Thai context, the writer, while a Director at Dhonburi Teachers College in 1971, adopted a microteaching project in one of the co-operating schools. The objectives of the programme were:

1. To find a practical procedure of microteaching in order to introduce student teachers to the teaching processes.
2. To find out how microteaching affects the student's teaching behaviour.

While practice teaching at the co-operating school eight or ten students were assigned to practice using microteaching techniques, four skills selected from problems in everyday teaching. They were questioning, use of audio-visual aids, introduction to the lesson, and conclusion of the lesson.

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[1] A report prepared by the Committee on Education Reformation, Educational Administrator Association of Thailand Reformation in Education, p. 101.

[2] A report prepared by the National Education Committee, Teachers' Training Department, Follow-up on Teacher Education, 1976, p. 6

The microteaching class took place when school was over, three times a week and one hour at a time. The learners were elementary pupils. Supervisors and co-operating teachers were responsible for running the programme. It was tried continuously for five quarters and questionnaires for investigating the results were completed at the end of every quarter by all those who took part in the programme. A comparison of teaching competence particularly in the use of audiovisual aids and the introduction to the lesson between students with and without microteaching techniques was carried out according to this programme. The results were as follows:

1. As for the microteaching procedure, the supervisor and students were confused at the beginning but learned to adapt and adjust to the steps in the microteaching process. Accordingly, a handbook, 'Microteaching'[3] was produced in order to introduce and to serve as a guide to the procedures in microteaching. Some teaching skills were also introduced with examples of teaching scripts.

2. As for the effect on teaching behaviour, all concluded that microteaching was very useful in self-study and self-improvement. From the comparative study, it was reported that the group using microteaching was more competent in the skills assigned than the other group. As for supervisors and co-operating teachers, they realized that with microteaching classes, they could share more experiences in the teaching process with students and could also improve their supervisory techniques.

The range of this programme however, was still of a narrow scope. How to put it into the professional programme for every student teacher was still in question. What teaching skills should be practised? Furthermore, the instructors needed more confidence in all the details about the teaching skills and the evaluation process.

In 1975, therefore, Pranakorn Teachers' College started a microteaching project and organized a workshop with collaboration from four teachers' colleges, some from the provinces. Assistance also come from AACTE which kindly provided supervisors for this workshop. The participants attended this workshop once a week for two quarters. The purposes of the project were:

1. To find out more effective and economical ways of imparting teaching skills suitable to prospective elementary school teachers.

2. To produce documents, aids and some models for microteaching training and also supervisory skills.

3. To produce documents, aids and some models for microteaching training and also supervisory skills.

4. To find out how microteaching techniques could be effectively and practically integrated into the whole programme of teacher preparation.

In order to carry out these objectives and to develop the teaching skills needed in elementary teaching, attempts were made following these guidelines:

1. A list of teaching skills was compiled from the opinions of supervisors, teachers, student teachers and pupils, all of whom had experience, or were at that time studying, at the elementary level.

2. Methods of selecting materials, procedure and activities for use as models in any teaching skills were chosen to suit the development of elementary school pupils as well as the curriculum.

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[3] Document prepared by Dhonburi Teachers' College, Microteaching, 1972, p. 140

3. The procedures and activities required in this project agreed with Thai culture and encouraged the utilization of local resources.

4. The conditions in the local teachers colleges were also brought into consideration.

As a result of a workshop the following materials were produced:

1. One document suggesting methods of preparation and operation of microteaching, along with one set of accompanying slides.

2. One document on each of the following skills with video tapes of models: uses of posture and gesture, questioning, reinforcement, use of audio-visual aids, story-telling, and motivation.[4]

Many insights and experiences were gained from this workshop. They were:

1. The production of models proved difficult in areas such as techniques of production, the relevance of the script to real teaching, and the presentation of the skill itself. A skilled technician is needed to produce satisfactory models.

2. The production of documents and video tapes on teaching skills were only in the beginning stage and were still not completed. They needed further study and improvement.

3. The six basic skills selected are conceptually mixed in that the first three are basic skills, the next two are basic tasks, and motivation is the combination of many skills. According to the proposal of the advisor, these six skills should be utilized in a sequential, skill-accumulation exercise.

4. There should be more workshops and studies about the basic teaching skills needed in elementary schools.

5. The integration of microteaching in the programme of teacher preparation should be tried in different ways according to the available situation in teachers' colleges.

6. The skills learned from actually carrying out the project are much more desirable than those obtained from only studying the documents and tapes. The acquisition of teaching techniques and teaching activities which cannot be shown in every aspect can best be learned through the actual operation of the project.

Staff and personnel arrangements for microteaching technique.

After having studied the patterns and techniques in microteaching, the college deemed it necessary to train staff members and educational personnel in the process for the students' professional programme and also for the retraining of in-service teachers. In order to make the training successful, the college, in co-operation with the Supervisory Unit and with assistance from experts from the British Council, organized a microteaching and simulation workshop at Nakornsawan Teachers' College for 11 days with the aim of giving the participants an opportunity to practice and study various patterns.

It was anticipated that the outcome of this workshop would enable the participants to do the following:

1. Organize microteaching sessions and therefore:

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[4] Document on Educational Supervising, Supervisory Unit, Teachers' Training Department, Microteaching Project 1977.

   a) Perceive 'legitimate' variations without departing from the essential features;
   b) List priorities in the implementation of a microteaching system;
   c) Specify the function of equipment in microteaching; and
   d) Define the role of the supervisor.

2. Use assessment instruments in practical teaching situations and therefore:
   a) Define P-types and A-types;
   b) Define an interaction analysis system: use of BIAS;
   c) State the practical constraints encountered in manufacturing measuring instruments; and
   d) Construct an assessment method suitable for Thai use.
3. Compare the following modes of microteaching feedback:
   a) Pupil;
   b) Peer;
   c) Measuring instruments; and
   d) Mechanical–video and audio.
4. Identify teaching skills:
   a) Specify broad categories (Turney et al);
   b) Select teaching skills which can be measured using the feedback modes above;
   c) Use examples of these teaching skills: stimulus variation; use of examples; set induction; closure; reinforcement, and combined questioning skills.
5. Train others to use the above-mentioned techniques.

In this workshop every participant actually performed practice teaching sessions using microteaching techniques. They were introduced through self-participation to skill practice and assessment procedure. At the end of the workshop, all participants agreed that the learning and experiences were gained mostly through self-participation.

With this outcome, a structured programme for workshops in training instructors in microteaching techniques was organized into two handbooks. The programme was adapted from the workshop at Nakornsawan using more aids and examples. The duration of a workshop was reduced to five days and the number of participants to not more than 36. The essential process was still emphasized: the participants were to practise and learn by themselves. An example of a schedule is as follows.

Day 1	Morning:	Pre-test Plenary session; introduction to teaching skills and microteaching.
	Afternoon:	Plenary session; introduction to rating instruments. Briefing on teaching skills–stimulus variation. Assignment of group work; teaching and supervising by each participant.
Day 2	Morning:	Groups gather for microteaching with group critique at the end of teaching. A–C C T V+rating B–audio+rating

		C–rating Re-teaching of the lesson.
	Afternoon:	Briefing on teaching skills–questioning. Introduction to interaction analysis. Practise on tapescript and on specimen lessons. Daily evaluation.
Day 3	Morning:	Groups for microteaching (peer teaching). A, B and C–audio+rating. Briefing on teaching skill–reinforcement.
	Afternoon:	Group work on constructing the rating instrument for reinforcement skill practice. Groups on microteaching (using the constructed rating instrument). B–C C T V+rating C–audio+rating A–rating Discussion and display with comment of group as measuring instrument. Daily evaluation.
Day 4	Morning:	Briefing on teaching skill–use of example C–C C T V+rating A–audio+rating B–rating Briefing on set induction and closure.
	Afternoon:	Groups on microteaching. A B C – rating. Daily evaluation.
Day 5	Morning:	Plenary session: discussion on microteaching procedure; pupil versus peers; mechanical devices, rating instruments, interaction analysis and critique as feedback; and supervision of microteaching.
	Afternoon:	Discussion on the practical use of microteacing techniques in teacher education. Post-test.

Using this pattern, the college has organized numerous workshops in colleges for staff and co-operating teachers, also in various institutes both in teacher education and in other professions such as the teacher training centre of the Royal Air Force. Differences in equipment availability and in evironment were considered in adapting the programme of the workshop. More insights into microteaching were gained through these workshops.

The conclusions based on the participants' evaluation of the workshops, are as follows:

1. Regarding feedback, video tape helped the participants very much in seeing their appearance in a teaching situation and it was very useful for self-analysis. On the other hand, uneasiness concerning the use of mechanical techniques was expressed. Without using video tape, however, other ways of obtaining feedback can be helpful e.g. interaction analysis, teaching behaviour observation, rating instruments and critiques.

2. Teaching to real pupils made the situation more realistic than peer-teaching. In some cases, however, if a well-arranged lesson was presented to peers, the skill was realistically practised.

3. Re-teaching of the lesson should not be performed immediately after the critique has been delivered.

4. The interaction analysis, especially BIAS, had to be adapted to Thai use and more time was needed for practice.

5. In order to present the teacher's specific skill in preparing micro-lessons, the preparation needed curriculum concern. The teacher needs to select the topic and arrange teaching activities suitable to the presentation of that skill in a five-minute time period.

6. All participants agreed that through actual practice they acquired an understanding of teaching skills and microteaching procedure. In the opinion of the participants microteaching techniques should be practised by prospective teachers and supervisers of practice teaching should also be trained in the skills of microteaching.

7. The Colleges should have microteaching centres for the improvement of the instructors' teaching skills.

Microteaching in the professional programme for student teachers.

Studies show that microteaching can be utilized in many different educational programmes. According to the programme of teacher preparation at Pranakorn Teachers' College, microteaching is mainly considered as one of the practical parts of the professional programme arranged for the student teacher before he begins his actual practice teaching in the school. It is integrated with other techniques such as simulation, case-study and group dynamics in the professional programme.

The objectives of having microteaching in the programme are as follows:

1. To provide a bond of relevance between theory and practice;

2. To assist student self-study and self-improvement;

3. To provide the student with the ability to identify a certain teaching skill and to suitably incorporate that particular skill into his own behavioural repertoire; and

4. To provide the skills needed to be competent teachers in elementary schools.

In the programme, microteaching is integrated as follows:

1. The programme tends to integrate all courses concerning teaching method together. Procedures in conducting the programme are organized and scheduled and necessitate team-teaching with the co-operation of the relevant departments.

2. Teaching tasks in the elementary classroom are conceptualized in terms of classes of variables. They are: social atmosphere, teacher statements, classroom management and discipline, and physical environment. In each variable, the teachers' tasks and skills are identified. The skills are practised using microteaching or other techniques after the necessary study of principles and associated theory.

3. Basic teaching skills are practised first preferably, then the integration of skills for teaching content.

The procedure of microteaching practice follows the following sequence:

1. The students are divided into small groups, each group not bigger than 12 with one instructor as a supervisor.

2. The student teachers are given documents for comprehensive study on microteaching and microteaching procedure and also, slides and tapes.

3. The schedule of microteaching classes set for each group can be arranged according to the timetable of the students and the instructors available.

4. The student prepares a microteaching lesson under supervision for a time-limit of six to eight minutes. Extra time is allowed for the practice of integration of all passed skills. This produces a total of approximately 15 to 20 minutes for the lesson.

5. Because of the difficulties in getting pupils for microteaching, peers or sometimes the children of the families within the college are used as pupils.

6. In a microteaching session, five students in the group are assigned as pupils, the rest as observers, with measuring instruments or teaching behaviour observation forms. After the teaching, the tape is usually replayed, and the student teacher provides the group with his self-evaluation first, then the peer group and supervisor evaluations follow. The tape is often used for self-study afterwards.

7. Most of the feedback is by audio-tape, rating instruments and critiques from peers. Only some students are able to have video tapes as there is not enough equipment for all students and also the cost of operation for every student is expensive.

8. Re-teaching the lesson is necessary only for those students who need another try in order to achieve satisfactory competence.

9. The skills selected for the practice are: variation, questioning, reinforcement, use of examples, use of the chalkboard, and set induction and closure.

Follow-up programme

The follow-up study attempted to find out how much more the student teachers developed skills in their classroom teaching situations after skill practice with microteaching techniques in the professional programme.

The investigative study consisted of questionnaires completed by those student teachers who had already completed their microteaching practice session and before they had gone out to practice teaching in the schools. A questionnaire was also filled out after the completion of practice teaching in the schools.

The findings were:

1. Eighty per cent of the male and female students agreed that the training in skills was useful.

2. Of the student teachers and the co-operating teachers, 62.28 per cent agreed that the skills received through the programme were useful to teaching in the classroom.

3. The students' opinion of the received skills before and after practice teaching was different. After the practice, 58.62 per cent rated the advantage of skill practice for themselves higher than their ratings before.

The results allow us to conclude that the training of skills was useful to the teaching process in general.

Some further comments, however, were made by the student teachers. They were:

1. Models should be presented by way of comparing good and bad examples of teaching skills.

2. Elementary pupils as students were preferred to peer group members as students because the teaching situation was then more realistic.

3. Each student teacher should have more chances to practice.

4. Supervisors of microteaching sessions should be selected and well trained. Thus the student teachers will have the opportunity to be supervised according to the same standards.

5. Group critiques should be more constructive to the microteaching teacher. The group should be trained to criticize in a manner which encourages the teacher.

6. The skill most needed for practice is questioning.

Need for studies and development in the use of microteaching techniques in the programme of teacher preparation

Most of the evidence from research abroad and also from practice in Thailand, concludes that microteaching is a very useful educational technique in assisting student teachers in the acquisition and development of teaching skills and in self-improvement of teaching behaviour. It is viewed as a flexible procedure which can be adapted to situations as required. Therefore, in order to have a microteaching programme that is more effective and fitted to Thai use, more studies should be conducted to answer problems such as the following:

1. In introducing microteaching skills to student teachers for example,

What teacher skills should be introduced?

How best can the students be given feedback?

How should written instructional material be made available to students?

How can key components of particular skills be produced and identified in models for the best use by student teachers?

Is there any difference in the progress of the student teacher in acquiring teaching skills when teaching peers compared with school pupils?

What should be the pattern of organizational procedure of microteaching sessions: length of each cycle, size of group, placement of re-teaching cycles, type of supervision, problems encountered with feedback devices and problems of scheduling, etc?

2. The problems of clarifying and identifying teaching skills and using then effectively in the Thai classroom situation.

3. Studies should be carried out on procedures of implementing microteaching as a valuable and workable component of teacher education programmes especially concerning administration, well-trained supervisors, staff co-operation, and the time and place of the microteaching in the teacher education programme.

4. Studies should be conducted into the effectiveness of transferring microteaching skills acquired to the teaching situation in the classroom.

5. What is the role of all the members working within the microteaching programme such as microteaching supervisors, co-operating teachers, practice teaching supervisors and equipment technicians.

There are still several areas of the microteaching programme in which studies are needed.

Conclusion

With the microteaching approach in the programme of teacher preparation, Pranakorn Teachers' College has realized the vital role of this technique in its programme. Even though many problems confront the present microteaching programme and affect its implementation, it is still considered a valuable experience for student teachers. The college is concerned with the practical use of microteaching within the framework of an ongoing teacher education programme. The results of the programme from each year and also from the seminars or workshops are considered for the improvement of the programme. Studies of microteaching for Thai use and in the Thai situation are continuously attempted in order to prepare the new teacher for the present classroom situation.

SECTION THREE

OTHER NEW EDUCATIONAL TECHNIQUES

INDIA:
THE UNGRADED SCHOOL SYSTEM

by

J.M.T. Rajan

Importance of education

Education is all important in man's life. It is education that builds up the full personality of a human being. It enables him to lead a balanced life and contribute his best to society and its progress. For the safe progress of democratic society, every citizen should be enlightened. Hence compulsory primary education is the bounded responsibility of every government.

Importance of primary education

Primary education is not only the first stage of education, but it also lays down the foundation of all educational growth of a citizen. It is for this reason that primary education should be made fully functional and effective.

Deficiencies in primary education today

At present primary education suffers from many deficiencies. Some of these deficiencies are:

1. It does not fulfil the needs of children especially those in rural areas.
2. The school is not attractive to the children, consequently, many children drop out of the school.
3. It neither encourages intelligent children, nor pays special attention to backward children.
4. The teaching methods adopted do not assure full learning to children. Consequently there are wide gaps in their learning.
5. The examinations at the end of the year, which pass or fail young children, after produce fear and frustration in the minds of young children.
6. The minimum grade for passing the examinations of 35 or 40 per cent results in the partial acquisition of knowledge.
7. The present school system does not offer any solution to the wastage and stagnation problem that bedevils all progress in primary education.

In order to tackle these problems and overcome these deficiencies, the ungraded school system was adopted.

What is the ungraded school system?

The ungraded school system has many features, among which are:

1. There are no separate classes or grades,
2. There are no annual examinations;
3. There is no passing or failing;
4. There is no regular teaching as in the present primary schools,

5. Each child is allowed to learn lessons and progress according to his own ability and speed;
6. Advanced children are able to progress more quickly;
7. Backward children are given special attention and are encouraged to progress;
8. Every child is given self-learning lessons prepared as programmed learning materials;
9. Soon after one lesson is mastered, another lesson is given, thus there is no halt or gap in the learning of children;
10. Regular evaluation sheets are given after finishing each lesson. So that the student is able to correct his own mistakes, and thus reinforce the learning process:
11. Teachers supervise the class and help the children in their self-learning; and
12. Teachers pay particular attention to backward children and help them to learn and master the lesson, and also to gather speed in learning.

Advantages of the ungraded system

1. Each child is allowed to progress according to his ability and speed.
2. It enables intelligent children to progress more quickly and advance further without let-up or hindrance.
3. After mastering the lessons of one standard, the students can move on to the lessons of the next standard.
4. Backward children are given individual attention and helped to progress.
5. There is no fear of examinations, and consequent frustration.
6. Since the children learn by themselves, there is joy in learning, gaining of self-confidence, and eagerness for the next lesson.
7. Since the learning process is easier and more attractive, children will attend school more regularly.
8. The problem of wastage and stagnation is considerably reduced.

How to implement this project

Preparatory work

At the outset instructional materials have to be prepared according to the following procedure:

1. Teachers with classroom experience, and educational experts in the field, are invited to prepare the self-learning lessons.
2. Each year's portion of the learning continuum is divided into convenient units of 30 or 40 lessons.
3. Each lesson should have the following steps:
   a) Preparation–students prepare to receive the lesson. Questions, illustrations, some recall of experience may be used which relates to the lesson;

   b) Self-learning–here all the learning items may be presented sequentially, in programmed form, enabling the student to locate the information needed to answer the question.
   c) Reinforcement–at this stage, opportunity is given to relearn through questions etc.;
   d) Evaluation–at this stage, the pupil is tested to find out whether the required learning has taken place or not. If it has the student may go on to the next lesson, if not the student repeats the lesson;

4. Illustrations for the lessons are prepared – art teachers may be invited to draw up the illustrations in colours.
5. After the materials are prepared, orientation for the teachers who are implementing the project and carrying on the work in school, may be organized.
6. At least five primary schools may be selected for introducing this project.
7. In the beginning first standard level and second standard level children should be involved in the project. As they progress, the self-learning lessons prepared for third standard level may be given to them.

First standard and second standard students will not be able to read and write. Hence the teachers will have to teach the self-learning lessons, and encourage the self-learning of children through organized questions and answers. At this stage more attention should be paid to developing the abilities of reading and writing. After the children gain these abilities self-learning lessons should be given to them so that they develop complete mastery.

8. There should be regular supervision of the progress of the children's work in school.
9. There should be regular evaluation of the ungraded system and consequent readjustments made in its implementation.

The ungraded school system was first tried in three rural schools in Bangalore, Karnataka, during 1975-76. After studying its progress, and ascertaining its success, the system was introduced in one hundred schools in all the districts of Karnataka during 1977-78. There is a proposal to extend this scheme to another hundred schools during 1979-80.

Teacher training programme

All the teachers of the selected schools, the headmasters of those schools and the relevant inspecting officers should be invited for the orientation. The programme should be held for at least three days and may take the following form.

On the first day, the nature, philosophy and features of the ungraded school system and the working of the system in the school, may be explained to the teachers. After the explanation full discussions about the implications may be held. On the second day, actual practice in the classroom with a demonstration of the work involving school children, may be given. On the third day, the administrative, supervisory and financial aspects of the implementation of the scheme may be discussed.

INDIA:
UNIVERSITY MASS EDUCATION: DIVERSIFIED COURSES FOR OUT-OF-SCHOOL YOUTHS AND ADULTS

by

Gunvant B. Shah

Background

This is a new approach to mass education as opposed to the old concept of the university as an 'elitist ivory tower' mainly concerned with highly intellectual pursuits. The South Gujarat University has opened its doors to extend its manpower and material resources to cover a variety of social groups, especially the under-privileged and socio-culturally disadvantaged classes of society.

Varied techniques are employed and are being evolved to successfully achieve the objectives of the varied courses within the shortest time-span at minimum cost.

To extend its services to the masses in the form of continuing education programmes, the South Gujarat University has established a small unit on continuing education in the Department of Education. The late Shri Mota of Hari Om Ashram donated Rs. 6,000[1] to run the courses and the University ear-marked Rs. 6,000. It was decided to spend Rs. 12,000 over the period of three years (1976-79). In the year 1976-77, the following courses were organized at different places in South Gujarat:

	Courses	Place
1.	Course for rickshaw drivers	Surat
2.	Course for trade union leaders	Surat
3.	Course on child development (for mothers)	Bilimora
4.	Course on new mathematics for parents	Surat
5.	Course on consumer education	Surat
6.	Course for diamond cutters	Navsari
7.	Course on teaching of science (primary school teachers)	Surat
8.	Course on child development (for mothers)	Surat
9.	Course on painting and interior decoration	Surat
10.	Course for adivasi farmers	Gadat, Ta: Vyara

The courses were conducted by experts associated with the University in various ways. There were no fees for the courses except Rs. 1 for registration. The courses were open to all regardless of age, sex or previous qualifications. Every participant received a certificate for completing the course successfully. The courses were of about fifteen hours duration.

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[1] 8.05 Rupees = 1 US dollar

Course for rickshaw drivers

The course was directed by Shri Chunibhai Bhatt. Sixty rickshaw drivers from the city of Surat participated in the course which was organized in Kanjibhai Desai Samaj Shikshan Bhavan, Surat. Those who acted as resource persons came from R.T.O., banks, the Rickshaw Drivers' Association, trade union leaders, journalists and passengers. One rickshaw repairer offered his services and demonstrated certain tricks of the trade in minor repairs and maintenance.

Course for trade union leaders

The course was directed by Professor Hakumatrai Desai who has a distinguished career as a trade union leader. Among those who acted as resource persons were those connected with the consumer movement, the trade union movement, labour laws, family planning and other related fields. Forty-nine trade union workers and leaders participated in the course and discussed various problems of trade unionism with reference to leadership. The course was conducted in Scout-hut, Surat. This proved to be a unique course in that some down-to-earth issues were discussed by persons who had worked in the movement for years.

Course on child development (for mothers)

The course was directed by Dr. K.C. Bhatt, Principal, Shri Rang Shikshan Mahavidyalaya, Bilimora. Among those who acted as resource persons were gynaecologists, child specialists, psychologists, college professors, experts on family planning and social workers. The course covered a wide range of issues including the following: family planning; small-pox vaccination; common habits among children; planned motherhood; skin diseases; and achievement motivation and the role of parents.

In addition to the lectures some interesting films on related issues were shown. On hundred and thirty women attended the course which was organized at Shri Rang Shikshan Mahavidyalaya, Bilimora.

Course on new mathematics for parents

The course was directed by Dr. D.V. Desai, Principal, V.T. Choksi Sarvajanik College of Education, Surat. Many parents joined the course because they wanted to understand the problems faced by their children in mathematics. Among those who acted as resource persons were experts on different aspects of new mathematics who tried to make the discussion as lively as possible as most of those taking the course were non-mathematicians. Sixty parents attended the course. The course was organized in Sarvajanik Vidyalaya, Gopipura, Surat.

Course on consumer education

The course was directed by Professor S.S. Shah. Resource persons came from the Health Department of Surat Municipal Corporation, Surat Consumer Association and Collectorate of Surat district. Twenty persons participated in the course. The group discussed relevant papers prepared by experts in the field and visited some shops in the market with a view to getting a feel of the real problems of the consumers and the shopkeepers. The Assistant Collector of Surat gave a talk on legal protections given to consumers. The course was organized in Scout-hut, Surat. The participants were keen to extend the duration of the course and wanted the course repeated so that the under privileged could attend. The latter is the group which often benefits most from consumer education and awareness.

Course for diamond cutters

The course was directed by Professor K.M. Desai of S.B. Garda Arts College, Navsari. Diamond cutting, which has developed quite a lot in recent years, has become almost a small scale industry. It provides employment to many semi-skilled job seekers. Among the aspects covered during the course were:

1. The technique of diamond cutting;
2. Preparing the budget;
3. Saving; and
4. Problems of health and better ways of living

The course was organized in S.B. Garda Arts College, Navsari. Eighty-four workers participated in the course.

Course on teaching of science (primary school teachers)

The course was directed by Dr. K.V. Sheth, Lecturer, Department of Education, South Gujarat University, Surat. The course attempted to update the content of the syllabus in the areas of biology, chemistry and physics, through group discussions on various important concepts. The discussions remained lively because of demonstrations and practical work.

The participants were mainly teachers working in primary schools run by the Surat Municipal Corporation. Fifty-four primary school teachers participated in the course which was organized in the primary school no. 5 of Surat Municipal Corporation in Haripura, Surat.

Course on child development (for mothers)

The course was directed by Kum. Dinaben Ghadiali, Principal, Singapuri Girls High School, Surat. The course turned out to be very popular in the sense that one hundred and forty-seven persons participated. It is interesting to note that among the participants only one male member believed that child development was not the responsibility of mothers only. Among the resource persons were gynaecologists, psychologists, doctors working for family planning and social workers. An exhibition covering the wide range of information on child development was organized in addition to film shows. The course was organized in Akhil Hind Mahila Parishad Hall, Soni Falia, Surat.

Course on painting and interior decoration

The course was directed by Shri Virendra Adhvaryu who is an artist of repute. The course covered the following areas:

1. Interior decoration;
2. Utilization of waste material;
3. Painting;

4. Craft; and
5. Preparing dolls.

Among those who acted as resource persons were drawing teachers from secondary schools and persons conducting hobby centres. Thirty-one persons participated in the course. The course was organized at Sarvajanik Vidyalaya, Gopipura, Surat.

Course for adivasi farmers

The course was directed by Dr. J. K. Phadke who is associated with the Gujarat Land Development Bank Ltd. and Gandhi Vidyapith, Vedchhi. Forty-five marginal adivasi farmers joined the course which was organized at Uttar Buniadi Vidyalaya, Gadat, a small village in the adivasi area. The course was divided into the following three sections:

1. Lectures by experts connected with the problems of marginal farmers;
2. An exhibition; and
3. Film shows.

The course covered a wide range of topics such as: agriculture extension, co-operative activities, twenty-point programme, family planning, social reforms, prohibition, tribal development schemes, panchayati raj, milk co-operatives, dairy farming and poultry farming. It was observed that adivasis were more interested in seeing the films and visiting the exhibition. Even the non-participating adivasi population took advantage of the films and exhibition. The participants came from approximately 11 surrounding villages. The course ended with a subsidized distribution of implements among the adivasis. This was undertaken by the local taluka panchayat authorities.

Finance

The table below gives details of the course expenditure:

Course	Number of participants	Amount spent (Rs.)	Registration fee collected (Rs.)
1. Course for rickshaw drivers	60	447.95	60
2. Course for trade union leaders	49	482.25	49
3. Course on child development (for mothers) (Bilimora)	130	474.00	130
4. Course on new mathematics for parents	80	480.65	80
5. Course on consumer education	20	277.35	20

Expenditure (cont'd)

Course	Number of participants	Amount spent (Rs.)	Registration fee collected (Rs.)
6. Course for diamond cutters	84	325.80	84
7. Course on teaching of science (primary school teachers)	60	423.50	60
8. Course on child development (for mothers) (Surat)	147	581.05	147
9. Course on painting and interior decoration	31	347.80	31
10. Course for adivasi farmers	40	447.80	40
Total	701	4,288.15	701

Some observations

It seems that the courses were well-received by the people on the whole. Some of the obvious limitations of the programme are listed below.

1. The programme was the first of its sort and there were no traditions or guidelines to follow.
2. The duration of all the courses was about 15 hours. It was observed that certain courses required a longer period of time. There is no need to follow a uniform pattern and the number of hours should depend upon the nature of course content.
3. There should be some central agency where participants can register their names. This would facilitate the work of the course directors.
4. Publicity plays an important part in any programme of non-formal education. The publicity folder should contain the details of what is going to happen in the course and what aspects are going to be covered. The central agency should undertake to publicize the programme in an effective way.

In spite of the limitations cited above, the courses went a long way in achieving the primary objective of educating the masses. Some of the salient features of the programme are:

1. In some courses, the participants were provided with a variety of learning experiences other than listening to a lecture. Film shows, exhibitions, excursions, interviews, paper reading and panel discussions were organized to supplement the lectures.

2. The programme catered to the needs of a wide range of people from various strata in general, and socio-culturally disadvantaged groups in particular. Some of the courses were very well received by women from lower socio-economic backgrounds.

3. Some participants suggested that a nominal fee, say 5 rupees, should be charged. Some experts on non-formal education had already made this suggestion.

4. The programme paved the way for taking up non-formal education work on a bigger scale.

Future programmes

Experience has shown that it is better to have a few courses with greater in-depth content. This would require courses of longer duration. The quality of a course depends, to a great extent, on the quality of the resource persons and planning. It is proposed that next year some of the following courses could be planned:

1. Courses for peons working in offices;
2. Courses for slum dwellers on 'better living';
3. Courses on yoga;
4. Courses for primary school teachers on various subjects;
5. Courses for better communication in English and Gujarati; and
6. Courses on research methodology for college teachers.

It is intended to organize a series of lectures on some selected topics of popular interest next year. This has been partly facilitated by a donation of Rs. 15,000 received by the Department of Education for instituting an annual lecture in the memory of the late Shri Kalyanjibhai Mehta, one of the most respected social workers and leaders of Gujarat. It is also gratifying to note that a number of social organizations like Rotary, Lions and Junior Chamber of Commerce have assured us of active co-operation and even financial support.

Conclusion

One of the pre-conditions of social change is that the man behind the plough should change as the plough changes. It is the business of education to bring about such a change. Instead of asking the man behind the plough to leave the farm in order to join a 'school', let us take the 'school' to the farm where he works. This is the essence of non-formal education and it is through such education that a real social change can be brought about. It is in this sense that a 'university' has now to accept the new and a challenging role of a 'multiversity'.

INDONESIA:
INNOVATION IN DEVELOPING TRAINING GRADUATES INTO PRODUCTIVE WORKERS

by

Moegiadi

Background

The poor economic condition of most families in the region of Lumajang, has caused an increasing number of youths to drop out of schools, and made many others, graduates of both junior and senior secondary schools unable to continue their studies.

Many youths in the district of Lumajang want to become government employees, but these are limited opportunities available. This, plus the high drop-out rate from the schools, has resulted in the existence of great unemployment which has become a heavy burden to the regional government of Lumajang Regency. Such a situation may not be tolerated any further, since it will bring about a problem in society. In this context, the Regent (*'Butati'*) of Lumajang, the State and the society, have sought a way out by encouraging the unemployed to become useful members of society by providing them with the training in various skills necessary for their living, which they might not have obtained from school. Thus, a Youth Skills Training Centre (known as the 'PLKP') was established.

Objectives

1. To provide the training necessary to develop special skills for living and thus, prepare the graduates for jobs already obtained.
2. To develop a favourable attitude, oriented toward better performance of work.
3. To develop the trainee as an independent and productive worker in the society.

Implementation

1. **Designing the programme.** The designing of the programme was entrusted to those most closely involved in the kind of subject-matter to be taught. For instance, the training programme for the first shift of the construction skills training was designed by the Office of Regional Public Works of Lumajang Regency with the assistance of teachers from a junior and senior secondary technical school; the training programme for welding was designed by junior secondary technical school welding teachers; the training programme for mixed farming was designed by the agriculture agency; the training programme for radio service was designed by a technician from a radio workshop; and the programme for motor-service training was designed by the mechanic of a service station.

2. **The procedure of programme designing.** The fields of training were chosen by the Regent assisted by his agencies, and the implementation personnel were proposed by the designers of the training programme concerned, on the basis of their knowledge of the particular skill involved. The designing of the training programme was carried out after the Regent had determined the fields of training.

He then appointed his staff from the social welfare sector who, in co-operation with the head of the district office of the Ministry of Education and Culture, designed the training programme. They were authorized to select their own assistants.

3. **Determining the time of training.** The duration of the training was decided by the trainers, based on their estimation and experience.

4. **Delivery method of the subject matter.** More practice was given, and the time was adjusted to the typical time used by real mechanics (workers) to finish such work, since it is impossible to present the materials as in a vocational school.

5. **The number of personnel required.** The number of teachers depends on the need and their availability.

The organizers in charge are the Regent and the district office of the Ministry of Education and Culture of Lumajang assisted by the other agencies.

The procedure for determining a field of training is as follows: the regent puts forward an idea concerning the field of training to the head of the Public Welfare Section and the head of the District Office of Education and Culture of Lumajang. These two officials, in consultation with their colleagues, discuss the subject-matter, the time of training, teachers and so on.

6. **The Regent's commitment to the teachers.** The teachers receive an honorarium of Rp. 500[1] per hour. One class period is 45 minutes, except for classes in radio servicing which are 60 minutes long.

7. **Supervisors of the training.** The officials in charge of the supervisory task are the head of the Public Welfare Section and the head of the District Office of the Ministry of Education and Culture of the Regency of Lumajang.

8. **The procedure of selecting trainees.** An informal interview is given concerning the trainee's objectives and reasons for undertaking the course. Each trainee must have an official statement of non-involvement in G. 30 S. and a certificate of good conduct.

9. **Involvement of trainees.** In the training the students are directly involved in working practice according to their own fields. They work in groups of four or five. When they have understood about radio servicing, for example, each group is assigned to obtain and repair a broken radio, only charging the owner of the radio for the cost of any necessary spare parts.

Inputs

a) Instruments used in the training programme. For the programmes of construction, welding, mixed farming, radio repairing, and motor cycle service, all of the instruments are provided.

b) Funds and facilities. The funds are supplied by the District Government of Lumajang, the Provincial Government of East Java, and the central government through the Ministry of Education and Culture for the first overhead costs, that is, for a building on a plot of 3½ hectares. This was then renewed at Rp. 12,600,000. The operational expenses are provided by the Regency Government of Lumajang alone, either in the form of credit or from the routine budget of the Regency government. The operational expenses are provided by the Regency Government of Lumajang alone, either in the form of credit or from the routine budget of the Regency government.

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[1] **8.05 Rupees = 1 US dollar**

Performance and impact

The Centre has yielded three shifts of trainees, namely, the first shift for welding and construction skills, the second shift for mixed farming, and the third shift for motor cycle and radio service.

The following table shows the number of youths trained at PLKP of Lumajang.

Table 1. The number of youths trained at PLKP of Lumajang

Shift	Major	Number of students	Graduates
I	1. Welding	19	12
	2. Construction	40	39
II	Mixed farming	57	52
III	1. Motor cycle	48	48
	2. Radio	20	20
IV	Animal husbandry	61	–
	Total	245	171

In an interview, all of the graduates indicated that they were able to apply the skills acquired from the PLKP, and they were sure that they could expand their work provided they were given more capital. This shows that they have acquired the necessary skills for earning a living. The training is thus successful.

The innovative features

1. One of the major innovations in this development is the after-care given to the graduates of the training programme. They are given protection and supervision, and also some money to buy the needed tools. Protection was given in the form of job assignments by the district for at least two years, and during that time they are closely supervised and assisted if necessary.

2. There is a great effort to relate education to the fields of work, and the potential fields of work to the skills taught.

3. There is close co-operation between the Regent, the younger generation and the businessmen.

JAPAN:
STUDY ON INQUIRY LEARNING METHOD

by

Fukuo Mori

Background, objectives and implementation

It is widely said that the inquiry method of learning is effective in helping pupils develop positive attitudes towards learning, but there have been no practical studies made on the application of the theory of the inquiry method for learning to the classroom teaching-learning processes. In order to find out desirable teaching-learning processes, the Ise Municipal Institute for Educational Research decided to make an in-depth study on the applicability of the inquiry method.

The objectives of the study were:

1. To provide classroom teachers with as many concrete and applicable examples of the inquiry method as possible;
2. To find out general rules, if possible, of the ways to make pupils define the problem and to make them establish hypotheses;
3. To clarify the teaching topics suitable for the application of the inquiry method; and
4. To work out patterns of the teaching-learning process by the inquiry method.

The study was conducted for three years successively from April 1972 in the form of a case-study by a team of two researchers from the institute and several classroom teachers from elementary and lower secondary schools in the city. Several teaching plans relevant to the inquiry method were prepared by the team for some grades and some subject areas. Then they were tried out in actual classrooms and modified if necessary. In total, 19 experimental classes were organized from grades I to VIII in the areas of elementary arithmetic, lower secondary mathematics, elementary and lower secondary science, elementary and lower secondary social studies, and elementary music.

Innovative features

1. To have developed several teaching plans relevant to the inquiry method, identifying the areas and levels of teaching topics, to which the inquiry method is applicable, as well as the conditions pertinent to the application of the inquiry method such as classroom atmosphere, pupils' readiness, materials to be used, etc.
2. To have made the study results available to classroom teachers, and have them utilized to advantage.

JAPAN:
STUDY ON EVALUATION METHODS ON THE PROCESSES OF EXPERIMENT AND OBSERVATION

by

Teruo Yoshida

Background

The newly revised courses of study from elementary to upper secondary schools stress the importance of teaching a 'scientific way of thinking' through the 'process of inquiry' in science. The evaluation of such an instruction cannot, however, be made efficiently by means of paper tests which are common and traditional in every school. Therefore, new evaluation techniques need to be developed by which the process of experiment and observation can be measured.

The section for science education of Ehime Prefectural Education Centre conducted a five-year study project on the new evaluation techniques.

Implementation and performance

The project was started in 1971 and concluded in 1975. Evaluation instruments were developed to assess the process of inquiry in science. They were tried out on fifth graders of elementary school and second graders of both lower secondary and upper secondary schools. The following abilities of the children were assessed by the instruments: (1) the ability to conduct an appropriate experiment and observation; (2) the ability to compare and classify; (3) the ability to induce rules or conclusions by drawing graphs showing the data gained; (4) the ability to forecast by using scientific models or hypotheses; (5) the ability to draw an exact line between what they have understood and what they have been unable to understand out of the data gained; and (6) the ability to apply the knowledge already gained to new situations.

Correlation coefficients of the results of these experimental tests and those of the traditional paper tests, IQ and creativity tests were also examined.

It was concluded that:

1. It is possible to work out test items which deal with the process of experiments in science from the elementary to the upper secondary levels;
2. By such a test, evaluation can be made of children's abilities, which cannot be measured by usual paper tests; and
3. Correlations between the results of such tests and those of creativity tests and IQ were identified.

Applicability of this test to actual classroom teaching still remains to be done.

Innovative feature

New instruments for evaluation were developed in order to assess the process of children's experiments in the study of science.

JAPAN:
A "TWO-TEACHER FOR ONE-CLASS" SYSTEM – A VARIATION OF TEAM-TEACHING SYSTEMS

by
Teruji Shibata

Background

There were two elements which led to the experiment of 'two-teacher for one-class system' (hereinafter referred to as the two-teacher system).

Among 250 pupils in the fifth grade there were several who were slow in learning and hardly able to keep up with their classmates. Remedial teaching for them was badly needed. At the same time, the lower secondary school in the area was highly critical of the achievement level of graduates of Yamate Elementary School. Even though lower secondary education is compulsory for all, unless the elementary schools maintain a standard level of achievement for all, it becomes difficult for the lower secondary school to accept the graduates without reservation.

There were also several pupils who came from socially discriminated groups. They were discriminated against even in the classrooms and as a consequence their attainment of learning was far behind the others. Parents of the discriminated pupils had been strongly requesting that both the Board of Education and the school stop such discrimination practices within the school setting, and provide their children with equal and effective learning opportunities by means of reducing the class size and increasing the number of teachers in the classrooms.

To solve these problems, the Board of Education approved the proposal made by the school for providing two teachers for each class in the sixth grade in order to make individualized and effective learning possible.

Objectives and scopes

The objectives are:

1. To ensure the minimum level of attainment required for graduation from the elementary school is reached;
2. To provide individualized guidance not only of pupils' learning but also of their behaviours and attitudes; and
3. To promote better human relations between the teachers and pupils.

Due to several constraints in terms of staffing and budget, the project has been limited to the sixth grade only.

Implementation

Prior to the implementation of the project, a trial was carried out in 1973 for the teaching of arithmetic in the fifth grade. The project was started in April 1974. Two teachers were assigned for each class in the sixth grade to take joint charge of the class. Altogether 12 teachers have been involved directly in the project. Each class was composed of 41 or 42 pupils.

There were trials and errors during the first year of the project implementation. The project was implemented in five stages.

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1. Beginning stage: One of the two teachers had been in charge of the class in the previous year, therefore, the other teacher needed to observe individual pupils in the class. In the beginning stage the teachers' roles were fixed; one acted as a regular classroom teacher and the other as an assistant-teacher.

2. In the second stage, the assistant-teacher began to take care of several pupils who needed special attention. The whole teaching-learning process of the class was looked after by the other teacher independently.

3. Study on the effective use of the two-teacher system began to be made. Several patterns of teaching methods were devised such as: joint conduct of the classroom teaching, and division of pupils in accordance with teaching topics or pupils' capabilities.

4. The teachers involved in the project realized that unless they made a detailed study on the teaching-learning processes they could not find effective teaching methods under the two-teacher system. The teachers' attention was geared towards what would be the most desirable teaching-learning process for individual pupils.

5. The teachers reached a conclusion that various patterns of teaching methods should be utilized with flexibility in accordance with the teaching topics, pupils' reactions, degrees of their understanding, etc. The most important point was how deeply the two teachers could grasp the individual needs ability, achievement, aptitude, attitude, etc. of all the pupils in the class. The conclusion itself seems very simple but it was based on one year's implementation of the project by 12 teachers.

Performance and innovative features

The nature of the project was experimental and it was conducted again in the school year 1975 at the same school for its sixth graders. The last two objectives mentioned earlier are likely to be achieved but it seems impossible to ensure the minimum level of achievement for all pupils. In this year's implementation a study is being made on the technical aspects of the two-teacher system including teachers' composition and their preparatory work.

Some features of the project which have stood out are:

a) two teachers are jointly in charge of one class;

b) the project has been effective in the guidance of learning and the behaviour of the pupils; and

c) the project was implemented in response to the local requests made by both the parents and the lower secondary school.

MALAYSIA:
TEAM-TEACHING TECHNIQUE IN THE TRAINING OF CURRICULUM OFFICERS

by
K. Jegadeva

Background

In Malaysia there is no core group of people trained in curriculum development. Curriculum Development Centre (CDC) staff are drawn from practicing teachers and they are given on-the-job training and secondary professional training at an institution locally or overseas.

Certain characteristics are considered desirable and identifiable in the selection of potential staff members. Candidates are selected on their interests, experience and personality. In our recruitment exercise, we call for applications for the vacancies in the various sections of CDC from school-teachers throughout the country. Applicants are short-listed, based on teaching experience and qualifications both academic and professional. Candidates are then interviewed by a panel of CDC staff compromising the director, senior staff and the team/project leader of the unit or section in question. Face-to-face interaction provides a good chance to assess the candidates' personality and seek other relevant details. The interview also has a written section, where candidates are asked questions on some aspects of curriculum development. They are also asked to indicate any innovative curriculum practices that they may have attempted. Therefore, candidates selected to work at CDC have, we believe, some of the basic qualities and capabilities necessary to do the job.

Objectives

The work at CDC is significantly different from that of teachers in schools. While teachers have the academic training in their respective disciplines and experience in classroom teaching, they still need to be:

1. Familiar with administrative procedures which are important components of routine operations;
2. Exposed to the elements of curriculum development; and
3. Oriented to their specific jobs.

The initial training of newly recruited officers is done on a team-teaching basis.

1. The most straightforward part of the training programme is the **administrative component**. Lectures on government regulations and office procedures are given by senior and experienced staff. Related documents are distributed.
2. The **curriculum development** component is nebulous, and an introduction to the subject is both simple and complex. For a start, the group is heterogeneous in several ways—the academic background of the staff range from MCE/SPM to postgraduates, and their professional experiences also vary likewise.

We found team-teaching to be most appropriate and successful in this area. Core curriculum content is considered formally in lecture-type sessions followed by open discussions. The group is divided up for subsequent sessions. The groups are intentionally divided into either homogeneous or heterogeneous groups depending on the activities planned. Homogeneous groupings are used when discussing specific issues, functions and roles. Homogeneity is based on the officers' qualifications and experience, or in terms of potential roles, e.g. unit/project head, support-service staff etc.

Heterogeneous groupings are used for general discussions in order to get a diverse range of opinions and mind-opening exercises. Good open discussions at this stage are very important as officers will have to face much more peer criticism as curriculum developers than they did as teachers. Psychological reorientation and coming to terms with differences of professional opinions are important, lest people feel diffident and insecure in their jobs. A lot of learning is expected to take place. Related reading and bibliographies are prepared to complement lectures and discussions. Readings are selected in line with the range of interests and capabilities of the group. In addition, officers have access to the resource centre.

3. The third component of this training programme is **project** specific. Everyone is exposed to the work of the various units in CDC. National priorities and project perspectives are emphasized. For this part of the training, officers spend time on-attachment to the various units. It is hoped that they will appreciate the problems and issues better after getting some inside information, and yet still have the opportunity for greater inter-unit interaction resulting from the group discussions. As an extention to the attachment to units, officers are also encouraged to acquire other skills, such as the use of audio-visual equipment. Provisions are made for officers to visit other divisions of the Ministry etc.

As a whole the training programme aims to give some basic training for work at CDC. The scheduling of the activities is kept flexible and changes are made on the basis of ongoing evaluation. Evaluation feedback tended to centre on physical conditions and problems of psychological reorientation. Interesting Behaviour patterns are observed, and these correlate well with on-the-job performance later on.

Problems

Problems tend to arise in the following areas:

1. Interest, experience (and capabilities) and personality.

Personnel that join CDC for reasons other than interest in the work soon become misfits. (Many people want to work in Kuala Lumpur to be nearer their spouse, to get away from previous surroundings, or have the chance of going overseas for training etc.) Personal qualities are difficult to judge at a short interview, and this is certainly an area where we need to improve our techniques. The job requires certain personal characteristics: aggressiveness yet able to work in a team; the ability to accommodate professional differences; and belief in what one is doing. Although these qualities are not unique requirements of curriculum developers, CDC officers do have to be more resourceful and innovative.

2. There are also inherent cultural inhibitions that are difficult to overcome. Old vs. young, senior vs. junior are retardants to the free flow of ideas and expression of creative and innovative practices.

One way of acquiring and keeping suitable staff is to allow for a certain degree of experimentation. Selected staff members are on trial for a year. During this time the organization (CDC) and the officer both have a chance to assess each other.

Personnel may leave on their own request or be transferred back to schools after the trial period. Some facility must be made available for those who want a second chance. This facility would ensure a reliable group of core staff. It is also hoped that officers who leave would take away with them useful experience that will enrich their subsequent teaching in the school system and thus be of benefit anyway.

Programme of orientation/training

The following programme was carried out in 1977.

Objectives of the course

At the end of the course it is hoped that the new curriculum officers will have achieved:

1. Basic understanding of the process of curriculum development from the point of view of research, planning, development, evaluation and implementation;
2. Basic knowledge regarding the ways of improving curriculum systematically and continuously, and
3. Knowledge concerning the procedure and organization needed to meet the needs of curriculum change.

Organization of the course

This course was divided into several themes. These themes were further subdivided into sub-themes and these were carried out in three stages:

- a) exposure,
- b) reinforcement, and
- c) recapitulation.

Topics of the course

1. **Research and curriculum practices**
   - a) Exposure
   - b) Reinforcement
     - – self-reading
     - – films
     - – case-study:
       - (i) study on reading
       - (ii) unified language project
       - (iii) compensatory education.
   - c) Workshop – small homogeneous grouping.
2. **Curriculum evaluation**
   - a) Exposure
     - – basic concepts) lecture
     - – data analysis)
   - b) Reinforcement
     - – case-studies
     - – practical workshops
     - – group discussion
   - c) Recapitulation – summary

3. **Development of curriculum materials**
   - a) Lecture
   - b) Detailed study of curriculum materials
   - c) Case-study: teachers' guides
     pupils' reading materials
     teachers' and pupils' resources
   - d) Workshop: preparation of sample curriculum materials by participants

4. **Testing the curriculum materials**
   - a) Lecture
   - b) Self-reading
   - c) Case-study – syllabus of Malay language for secondary schools.

5. **Planning for curriculum implementation**
   - a) Lecture
   - b) Case-study –
     - (i) supporting materials.
     - (ii) civics and history.
     - (iii) population education.
   - c) Summary

6. **Effective ways to organize curriculum, methodology, and learning techniques**
   - a) Lecture
   - b) Reinforcement –
     - (i) educational technology
     - (ii) integrated curriculum
     - (iii) self-learning modules
     - (iv) film
   - c) Workshop/discussion – small groups.

7. Strategy for curriculum development and study of the organization of the Curriculum Development Centre: lecture by the Director.

8. **Briefing on CDC projects/unit**
   - a) Language curriculum development
   - b) Primary science and mathematics curriculum
   - c) Secondary science and mathematics curriculum
   - d) Social studies curriculum
   - e) Population education project
   - f) Development of prototype equipment for teaching/learning situations.
   - g) Pre-school curriculum
   - h) Role of the evaluation unit
   - i) Role of the research unit

9. Summary and evaluation of the course.

THE PHILIPPINES:
MODULARIZED INSTRUCTION IN THE INTEGRATED LABORATORY SCHOOL: A CASE-STUDY

by

The Institute of Education, Far Eastern University

Background and rationale

During the school year 1973-74 when the Integrated Laboratory School opened its elementary department, traditional teaching was the method used. In this method every pupil in the class was taught the same lesson which hampered the progress of the fast learners who had to wait for their slow-learning classmates. On the other hand, the slow learners in the class were forced to try and keep up with the faster learners, resulting in some frustrations for the former.

After giving some serious thought to the problem, the Integrated Laboratory School decided to launch, on an experimental basis, an innovation in instruction in the form of modularized instruction in certain selected subjects at the elementary level. Teachers were asked to attend seminars on the preparation of modules, and their implementation and evaluation. Classes in some schools which were already using modularized instruction were observed by the Integrated Laboratory School teachers.

Modularized instruction on an experimental basis was launched at the elementary level of the Integrated Laboratory School at the start of the school year 1975-1976.

Those involved were the Dean of the Far Eastern University Institute of Education, the head of the Integrated Laboratory School and three experienced teachers from the school staff.

Objectives

1. To meet the individual needs of the pupils.
2. To develop self-direction and personal responsibility.
3. To develop the ability of critical thinking.
4. To attain mastery of the specific objectives at a predetermined level of proficiency.
5. To develop skill in evaluating one's own work.

Description

Each module used in the Integrated Laboratory School is in booklet form. The first page contains the module number and the subject-matter involved and another page provides the rationale and the objectives.

A module has three basic parts. The first part is composed of the pre-test to find out how much of the subject-matter encompassed by the module each pupil already knows. The results of the pre-test determine which lesson a pupil has to study further.

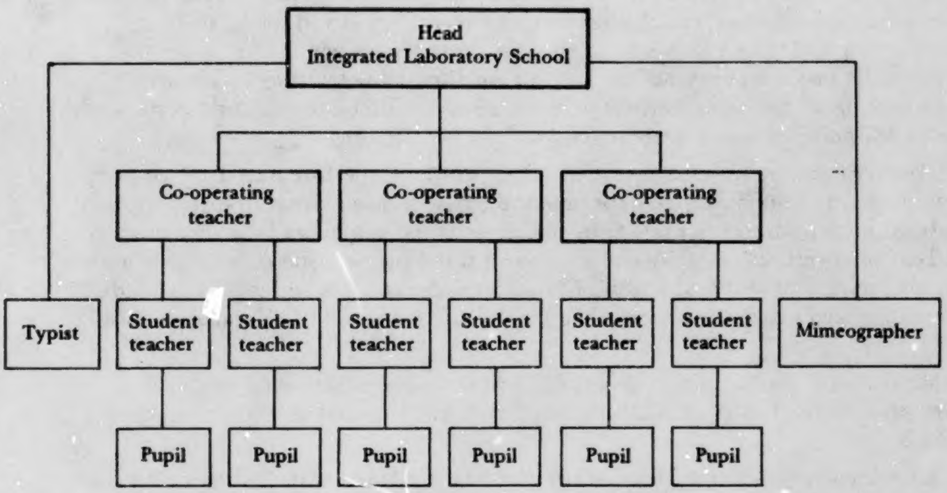
The second part deals with the explanation, examples and different activities. At the back of each page of activities are the answers (feedback).

The third part is the summative test which measures a pupil's mastery of the subject-matter covered by the module.

Mechanisms for implementation

1. **Organization and staffing**

Below is the organizational chart for the implementation of modular instruction at the Integrated Laboratory School.


Head
Integrated Laboratory School
Co-operating teacher
Co-operating teacher
Co-operating teacher
Typist
Student teacher
Student teacher
Student teacher
Student teacher
Student teacher
Student teacher
Mimeographer
Pupil
Pupil
Pupil
Pupil
Pupil
Pupil

Co-operating teachers in both Filipino and English language arts grades IV – VI and mathematics grade III, are directly involved in the modular instruction. As can be seen in the chart, student teachers serve as aides in this strategy. Pupils are the recipients of the instruction. The headmaster receives the feedback on the use of the modules from the co-operating teachers. From the feedback, action is taken based on the suggestions of the head of the school.

2. **Financing and logistics**

The institute provided the needed equipment for the preparation of the modules. The modules being used at present were prepared during the summer of 1975, ready for use in the school year 1975-76. For the materials alone, approximately P4,000.00[1] was spent.

3. **Controls**

Before the pupils work on the modules, they are given a diagnostic test to determine their levels.

The pupils work on the modules individually under supervision. They are allowed to progress at their own rate. At the end of the school year, the pupils are expected to have worked on all the modules–those who do not finish begin the following school year at the point where they stopped.

4. **Evaluation**

As a pupil finishes a module, he is given a summative test. The desired level of performance for mastery is 80-95 per cent. If a child receives below 80 per cent in the summative test, he must repeat the whole module.

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[1] 7.35 Pesos = 1 US dollar

Formative tests taken by the child after every sub-topic determine whether he repeats that particular sub-topic or not. Repeating provides for mastery of the topic under study.

5. **Factors contributing to the success of the programme**

The success of the programme is due primarily to the support and co-operation of the administrators, teachers and other office personnel, who worked hand in hand for the production of the modules. Materials were always ready so that each pupil had a module suitable to his needs.

To ensure the maximum performance from the pupils, the co-operating teacher together with the student teachers were always ready to give guidance on the proper use of the modules and to give individual supervision if necessary.

6. **Present status**

The programme is still going on with some revisions to meet the needs of the pupils.

7. **Problems encountered and some strategies for solving them**

Before the launching of the programme problems such as: how to implement the programme; what subjects should be individualized; who would prepare the materials; who would shoulder the financing; who would do the typing and mimeographing; and other questions that seemed to be unanswerable at first had already surfaced. All of these problems were solved in a very short time with staff effort and co-operation.

The teachers were sent to the different schools which were implementing the individualized instruction to observe for themselves, and seminar/workshops were given to prepare them for the new job. It was agreed that language arts both in English and Pilipino and grade III mathematics should be individualized. Expenses, including the salary of the typist were shouldered by the institute. The mimeographing was done by the teachers themselves with the help of the student teachers.

Every now and then problems such as, the inability of the pupils to follow instructions and the insufficient number of teaching aids, occur. These kinds of problems are discussed by the teachers and are resolved among themselves.

Impact (observable results)

It was discovered that individualized instruction in the Integrated Laboratory School offers many advantages. Among these are:

1. It allows the student to work at his own rate, and to proceed as rapidly as possible of at a slower pace than normal, if necessary.
2. A student does not leave a unit until he has attained mastery of the specific objectives at a predetermined level of proficiency.
3. Although it trains him in learning on his own, associations with other students are also encouraged.
4. Most students are so involved in what they are doing that those problem students who try to get attention by causing disruptions are largely ignored. It also provides the student with the freedom to make decisions either entirely on his own, or in conference with the teacher.

REPUBLIC OF KOREA:
CLINICAL SUPERVISION BY TEACHERS' COLLEGE PROFESSORS

by
Nak-Jin Moon and Dong-Jun Choi

Background

There are two possible methods of in-service education for elementary school teachers in the Republic of Korea. One is to have a series of formal education programmes at the in-service teacher education centres attached to all ten junior teachers' colleges in the country. In-service teacher education is quite effectively conducted in all these centres. The other is to have direct visits by college professors to schools and colleges to give clinical supervision and counselling. This aspect of in-service education has been neglected until today in spite of its urgent necessity in the present teacher education system.

One survey indicated that 97 per cent of elementary school teachers desire to have regular visits by college professors who would provide on-the-spot counselling and guidance through observation of their teaching. On the basis of this finding, Konju Junior Teachers' College undertook a programme of providing direct supervision on-the-spot through regular visits to elementary schools. This would also help the teachers' college to collect basic data and evidence necessary for the improvement of existing teacher education programmes at pre-service and in-service levels. As the only teachers' college serving elementary schools of Chung-nam province, Kongju Junior Teachers' College is involved in in-service education mainly through the formal education programmes of the attached in-service Teacher Education Centre. A new programme was initiated in 1976 and this paper summarizes the data collected from that programme.

Objectives

The Kongju Junior Teachers' College has accepted the following objectives in conducting visits and clinical supervision and counselling by college professors for in-service teacher education:

1. To examine the problems and effects of visits and clinical supervision by the Junior Teachers' College professors or the elementary school teachers;
2. To explore the possible ways of improving existing in-service education;
3. To obtain suggestions for the directions of the supervision by formulating a theoretical framwork and also by critically analysing the practices of supersupervision by the College; and
4. To provide an opportunity for follow-up study of the college graduates.

Implementation

Through the visiting and/or clinical supervision, the College professors focused their attention on improving (a) the classroom teaching, (b) individual research, (c) innovative school projects, (d) group study techniques by a teacher having a common problem or intention, and (e) other in-service education activities of teachers.

The college first announced the programme to the Provincial Board of Education and to its branches in 17 cities and countries of the province and received applications from the co-operative schools. The detailed schedule for visiting and clinical supervision was co-operatively developed between the College and the individual school to be visited based on the school's problems and needs. Since the schools were likely to give low priority to this programme because of the expense involved, the College had decided to provide free educational services. Sixty-seven schools from three cities and countries were selected for the programme. During the year, a total of 91 visiting supervision sessions were conducted by 40 professors from nine major fields of study. The lecture-cum-discussion method was mainly used. The teachers had ample opportunity for self-activity, interaction and diversity of activities.

Some findings

For analysing the effectiveness of the practices of this supervision, a questionnaire was administered to a sample of 230 teachers, 92 school administrators from 46 elementary schools, and 27 professors involved in the programme. In addition, five school administrators, five teachers and three educational experts were interviewed. The analysis of data, provided the following findings:

1. Most teachers welcomed this type of supervision and responded that it was necessary for the improvement of school education. The main reasons for this response were that professors could supervise using their expertise, and the teachers could be supervised without any feeling of uneasiness.

2. It was effective because there was little administrative control in the process of supervision and thus teachers could make free contacts with teachers' college professors and receive help from them. Some teachers felt, however, that there still remained a feeling of distance resulting from the distinction between the College and the elementary schools. Traditional supervising is hierarchically conducted by the supervisors from the Board of Education and so the college professors had some problems in working with teachers.

3. The programme had advantages in the aspects of professors' expert assistance, objective criticism, and harmony between theory and practice. The close relationship between the teacher education institution and the in-service activities through this programme, contributed to the narrowing of the gap between theory and practice and to the harmonizing functioning of both aspects.

4. It stimulated the development of proper attitudes in dealing with problems of school education. Teachers showed a positive attitude in accepting innovative ways and in showing confidence in their usefulness. There was some confusion resulting from the different views on supervision held by the professors and the supervisors from the Board of Education. Most professors responded however, that the supervision had contributed to the solution or some of the problems of school education and had provided an opportunity for them to understand real practices in a school setting.

5. Many teachers requested that this type of clinical supervision be continued extensively. Most professors suggested that time be secured for supervision, that methods of identification of problems should be reviewed, and that ways and types of supervision should also be improved.

6. Finally, the programme has resulted in various suggestions for the improvement of the curriculum and other aspects of the teacher education pro-

gramme. A key finding is that the professors felt they were very ignorant about the realities of the schools before this programme took place.

Problems and perspectives

Since the programme is only in the beginning stage and involves very complex practices in comparison with the formal training at the in-service education centres, there remain difficulties and problems to be solved.

One problem is how to maintain harmony and co-operation with the other authorities which are administratively connected with the school. This is crucial because the school is greatly influenced by administrative control from these authorities and the degree of their interest in the programme decides its effectiveness.

Another difficulty is related to the procedure of carrying out the visiting or clinical supervision in the on-site situation. The professors have their original responsibility of teaching at the college and as well, the number of professors is limited. This is one reason why prompt action regarding supervision or correspondence is sometimes difficult. Moreover, prior to supervising, time is needed for reviewing or examining the topics or problems. A prior agreement between the college and the school for appropriate methods of providing assistance is also needed. These procedural matters suggest that there must be a variety of methods of supervising and counselling using different media of communication and other convenient methods, and that they must be simple.

A third difficulty is the competency of the professor who is involved in the supervising activity. He may, in fact, have more theoretical knowledge than practical knowledge and he may, therefore, be limited in terms of on-site events and situations. The professor, therefore, should be equipped with skills and expertise to deal with events and occasions which require guidance and supervision. The personality of the professor as a leader or an expert is an important factor in the effectiveness of the programme because it becomes a basis of establishing a good human relationship between the professor and on-site teachers.

The fourth difficulty concerns the attitude of acceptance of supervision and counselling. As the hosts, the school teachers tend to keep an attitude of unconditional acceptance of the views and suggestions of visiting professors. It has been said that there must be critical participation on the part of the teachers in the co-operative approach to problems. This kind of one-way acceptance is likely to result in the over-dependence of the teachers upon the professor for the solution of their problems. Teachers will have to be encouraged to initiate their own programmes for self-development.

One last problem is related to the heavy professional load on the professors involved in the programme. Since the recent decrease in the demand for elementary school teachers has resulted in the decrease of the teaching load of the professors at the Junior Teachers' Colleges throughout the country, this programme has been undertaken without overloading them. But in the long run it will be necessary to provide additional personnel which will increase the cost of the programme. Additional funds must be provided to make it effective.

For the solution of the above-mentioned difficulties, the college is planning to set up strategies by itself or co-operatively with interrelated authorities with the confidence that they can definitely improve the process of providing continuing supervision and counselling. Furthermore, since the college expects that the requests for supervision will increase in future, it will keep trying to improve its programme so that all requests can be met.

REPUBLIC OF KOREA
USING A BEHAVIOURAL INVENTORY APPROACH IN TEACHER PREPARATION

by

Hong-Kyoo Ryan

Background

All students in teacher education institutions in the Republic of Korea are required by law to have at least four weeks of student teaching practice. Student teaching is aimed at preparing the student teacher for schools by using selected observational and classroom participation experiences. Many Korean teacher-educators believe that earlier experiences of teaching will not only ease the transition into actual teaching, but also help the student teacher discover relationships between his formal studies and actual classroom situations. At the same time, it is also aimed at helping the student teacher to apply his knowledge by developing needed skills as a practician, and at orienting himself toward the professional attitude necessary for a teacher.

As far as the effectiveness of the student teaching programmes of teacher education institutions is concerned, there have been few attempts to evaluate it scientifically. Usual concern is given only to the length of student teaching. This idea is derived from the assumption that student teaching is a necessary process for the preparation of teachers and the longer the preparation period is, the more effective it is. This is not true, however, unless the student teaching programme is effective. This is why there has appeared a clear trend today away from theoretical training to practical training in teacher education.

The Jeonbug National University is a local national university established in 1952. Among its many contributions to the Jeonbug Province and one of the most influencial factors is its training of secondary school teachers. Almost half of the total secondary school teachers of the province were trained by the university. The student teaching programme of Jeonbug National University is based on behavioural instruction and is being developed in order to bring about better student teaching practices. Behavioural instruction is a new model in classroom teaching today.

The programme is primarily based on the assumption that an objective measure of student learning is the only certain evidence of effective teaching. It is expected that the teacher using this approach attempts to verify the effectiveness of teaching skills, not in the shadow of subjectivity, but in the light of objectivity. The teacher oriented toward behavioural instruction is also expected not to be afraid of experimentation using new teaching methods and to choose activities which show substantial evidence of their success. He should not be afraid to innovate or modify the existing methods, but he must accept the responsibility for collecting sufficient data regarding his students' learning in order to assess the validity of his methods. Because of these characteristics, behavioural instruction is interpreted not only as a method, but also as an attitude, and this is why it is accepted as a valuable theory to be applied to the student teaching programme at the University.

Objectives of the programme

Based on the above-mentioned rationale of behavioural instruction, the student teaching programme at Jeonbug National University has set the following objectives:

1. The student teachers should be able to specify contents, concepts or other desired outcomes of learning into observable behaviours not only directly but also indirectly through instruments. Behaviour is public in the sense that it can be seen with general agreement as to what it is that is being observed. This permits far better description of student performance and allows for objective assessment of ability. The student teachers in this programme must be concerned with those activities which are observable.

2. Student teachers are expected to be able to observe a specify affective behaviour (thought patterns and emotions) in their pupils. This should help to maintain the highest possible degree of objectivity in developing a student's behaviour.

3. The programme also sets as its objective the better understanding of the individual student. The programme emphasizes the development of an atmosphere in which the individuality of each student can truly be realized. The student teacher must be able to understand the particular likes and dislikes of each student, his present behaviour in the classroom and his preferred activities. He must not make assumptions about the student but must actually observe him in action to obtain accurate information regarding his performance. Furthermore, he should learn what a student is likely to do in various school situations so that he can alter his environment for maximum learning.

4. The behavioural instruction programme trains the student teacher to be a capable manager of his encironment, to bring about optimal learning conditions for his students. It is based on the idea that faulty learning is the product of a faulty environment rather than of a faulty student. This is why the teacher must be trained in the various ways of changing the environment so as to increase a student's motivation to learn.

5. The programme is also aimed at student teachers learning from their students. Behavioural instruction makes it easy for the student teachers to learn from their students because it emphasizes observable behaviour. This concept stimulates them to see the classroom not only as a room in which academic subjects are taught, but as a living educational laboratory in which new and creative teaching techniques are objectively sought and evaluated. The student teachers, in this situation, are to be trained as observers whose area of study is the behaviour of students in school. In this way they can learn those principles of teaching which are fundamental to rapid, efficient, and profound education. They are expected to be involved in a teacher-observer working relationship in a classroom-laboratory.

6. The behavioural instruction programme of the university seeks to develop the student teacher to be an efficient measurer and evaluator of the changes occurring in his students' behaviour. In this way he can increase the rate and accuracy of learning and at the same time decrease errors and undesirable behaviour. The student teacher as an independent variable is expected to systematically arrange the classroom environment and to accurately measure the changes in student behaviour, the dependent variable. The behavioural instruction programme has an advantage in providing the possibility of reliable measurement and evaluation of behavioural data of students, as well as of student teachers themselves.

Stages of the programme

The student teaching programme of Jeonbug National University based on behavioural instruction, has had only two years of operation, 1975 and 1976. There have been many trials and errors but these have produced improvements in the programme. The programme is conducted through four main stages: orientation, observation, participation, and practical teaching.

The orientation is scheduled and conducted by the university for one week before the student teachers go to the co-operating secondary schools for actual student teaching experience. During this session, the student teachers are oriented toward the general objectives, content, and procedures of student teaching with emphasis on desirable attitudes and practices. The concepts and techniques of the behavioural instruction programme are focused on here. The skills of how to use the behavioural objectives, how to lead academic subjects along with these objectives, how to manage the classroom environment, and how to measure and evaluate the outcomes of these activities are reviewed in detail. Modularized instruction and criterion-referenced evaluation techniques are also included in the process. Since the student teachers have been taught this way throughout their previous school years, one week is enough for them to review these concepts and techniques. All student teacher applicants are required to take a qualifying examination made up of multiple-choice items, on the last day of the session. Anyone who fails in the examination has to take a make-up test within one week. The test is constructed on the basis of criterion-referenced evaluation and the standard is set to measure the minimum essentials of the behavioural instruction.

The actual student teaching at the co-operating secondary school is begun by observation. According to the predetermined schedule made by both the university and the secondary schools, the student teachers are required to objectively observe the school situation. It is important for them to observe the interaction between the teacher and the student or among students. The student teachers are also expected to understand the environment as well as the individual students. Three aspects of observation are emphasized:

a) to observe how knowledge and theories which are learned at college are related and applied to actual school and classroom situations, to the school and the family, and to the school and society;

b) to learn how actual techniques of teaching and guidance of teachers are progressing and what are the responses of students resulting from these techniques; and

c) to experience the practical applications of what they have learned at college and also to study actual classroom and school settings and to compare them.

Special attention and consideration are given to objective awareness and recording of student behaviour. A detailed format for recording of observed data is provided by the university.

The third stage of student teaching practice is an actual participation and through this experience the student teachers learn the professional functions of the teacher in the school and society. It is intended as a research activity which looks to understanding school activities broadly and deeply as well as objectively and practically. Three important aspects of participation are set up.

a) the learning-teaching situation in the classroom;

b) the situation of school activity as a whole; and

c) the situation as related to the school community.

Detailed items in each of these categories are given to the student teachers along with a systematic schedule developed by co-operative efforts between the university and the secondary schools.

The final and the core stage in the student teaching is the practical teaching in the classroom. Through the experience of various school activities, they learn the ways to get along with their students, to influence student activities by their unique personality and character, and to maximize their professional functions as a teacher. This stage, therefore, is an integrated application stage of all that the student teachers have learned, observed, and participated in through the previous stages and experiences. Classroom teaching and behavioural control and focused on here. The student teachers have to practise various activities to achieve the objectives set by the programme. Student teaches learn how to operate behavioural objectives, to instruct students using the modularized set, to manage the environment, and to objectively measure and evaluate the results of these.

Methods of conducting the programme

The university provides two programmes of teacher education for secondary school teaching. One requires taking 20 credits of professional courses and is provided for students who are not in the Colleges of Education. The other is for the students of the Colleges of Education, who receive free tuition. During the second semester of the senior year, the former are given four weeks of intensive student teaching and the latter six weeks.

In 1975, 198 non-teacher training college students and 88 students of the College of Education participated in the programme and in 1976, 218 non-teacher training college students and 95 students of colleges participated. In conducting the programme, the following special methods are used:

1. The programme involves the co-operative supervision of student teachers by the university faculty and the supervising teachers of the secondary school. The supervising schedule is set up by the university. According to the schedule, the staff from each university department visit all co-operating secondary schools at least once a week. They observe the student teachers and discuss their observations and advise the student teachers and the supervising teachers on any problems they may have.

2. The student teachers are required to demonstrate one lesson in front of the supervising teachers, the college professors, and other student teachers. After this demonstration, an evaluation session is held with all observers present. Through this evaluation session, the student teachers learn many important points for effective teaching.

3. The student teachers are also asked to keep a record of their daily practice in a notebook specially designed for student teaching and this record is daily reviewed and commented on by the supervising teacher. They carry the notebook with them at all times and note down observations and facts related to their teaching. This requirement seems to stimulate them to observe events carefully and critically.

The student teachers are also required to carry out at least one case-study or one small project during the student teaching period with the assistance of supervising teachers and sometimes of college professors.

Some observations and implications

When the programme was first attempted in 1975, both the college professors and the supervising teachers of the co-operating secondary schools showed some negative attitudes to it, but when they understood its advantages, they became positive in their participation in the programme. From the (a) observation of the student teachers by the supervising teachers using the rating scale and by review of student teachers' daily records, (b) the evaluation by the university professors, and (c) the self-evaluation of the student teachers, these results were found:

1. The student teachers showed a positive attitude in managing student behaviour.

2. The student teachers were oriented toward precise teaching of students especially the slow learners. This orientation encouraged them to participate in practice teaching, provide individualized instruction, plan systematic procedures in order to reinforce students' correct responses, and teach students more precise ways of measuring performance.

3. It stimulated the student teachers to seek innovative methods in their teaching without avoiding experimentation. To them the classroom is really a laboratory which improves teaching effects. This is attributed to the precise teaching and measuring strategies employed.

4. In relation to the ability to set up behavioural objectives and precise measures of the teaching results, the student teachers demonstrated sufficient programming skills of successful learning procedures to achieve the objectives. These skills are developed by applying principles of operant conditioning in the classroom situation. The student teachers also recognized the necessity of individualizing instruction to a greater degree than is presently practised under the grade system of promotion.

5. One characteristic finding was that the student teachers became effective managers of disruptive behaviour by students. The behavioural instruction theory infers that learning from behaviour and promoting learning and changing behaviour are inseparable processes. Thus, the student teachers are continually making decisions regarding what behaviour is desirable and what is not. This approach has clearly fostered the ability of student teachers to deal with disruptive behaviour.

6. Another important feature of the programme is its understanding way of seeing and dealing with students. The student teachers were able to understand their students more effectively because they understood better the particular likes and dislikes of each student, their behaviour in the classroom, and their specific preferred activities.

Concluding remarks

Since this programme is based on the new concept of behavioural instruction and there are few studies, many trials and errors will inevitably accompany its development.

One difficulty regarding the programme is the lack of knowledge, understanding and techniques on the part of the college professors and the supervising teachers at the secondary schools. Because of this the co-operating secondary schools sometimes advise their student teachers in contradictory ways. The university has planned schedules of workshops or seminars in order to solve this problem, but progress in this regard has not come up to their expectations.

Another difficulty arises from the allegation that the new programme tends to disturb the pupils at the co-operating school in their preparation for the entrance examination for the upper school. With the use of precise study and teaching and precise measuring strategies, essentials of knowledge and academic skills are presented more clearly. In fact, behavioural instruction emphasizes the effective learning of academic skills as preparation for students' full participation in society.

Another problem is that present in-service teachers in the Republic of Korea have heavy teaching loads; they tend to avoid taking student teachers and when they do they lead them without full sincerity and care. This has also been a problem in the traditional student teaching programme.

In spite of these difficulties, the behavioural instruction programme has more advantages than disadvantages. Its principles of enhancing a student's self-direction, of integrating learning and behaviour, and of emphasizing the positive and successful side of education, are believed to have sufficient power to overcome the above problems. The university is planning to extend these concepts to the college professors and to the in-service teacher education programmes in the near future.

THAILAND: PROJECT ON REDUCED INSTRUCTIONAL TIME (RIT)

by

Nuanchan Potar

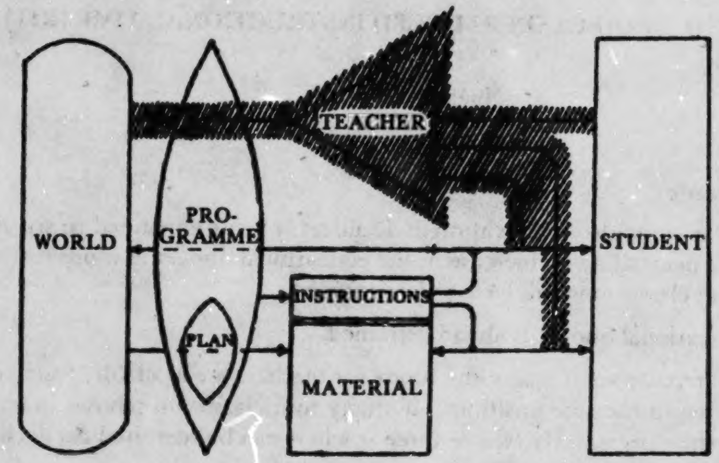
Problems and needs

- Four-year compulsory education in Thailand is being expanded to six years. This will necessitate an increase in the educational budget as more teachers and more classrooms will have to be provided.
- The educational budget is already strained.
- In some remote areas where the funds for teachers are available, teachers are not willing to take the positions. In many four classroom schools in remote and sensitive areas, only two or three teachers can be recruited for each school.
- Traditional means of education cannot be simply expanded because funds are not available.
- Non-traditional alternatives must be found which are both effective and economical.
- About 80 per cent of educational costs are those associated with teachers.
- Ways must be found to reduce the teacher-to-student interaction in the classroom.
- A large part of learning may have to be through instructional materials with less teacher/student interaction.

Different institutions for learning

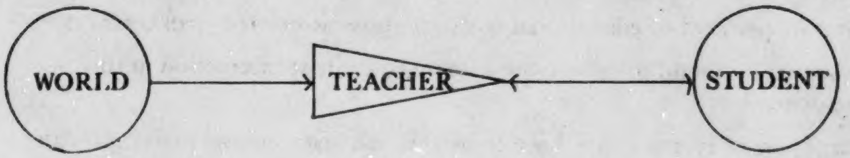
The last few years have witnessed a rapidly growing trend towards student-centred approaches to learning as against the teacher-centred approach. The inevitable outcome is that emphasis is on learning rather than teaching as it used to be.

It is realized that learning occurs in a wide variety of situations with and without teachers. Certain situations permit learning to be very efficient and effective, enabling students to acquire the desired knowledge in a shorter time, with a longer period of retention and at a minimum cost. The models on page 122 illustrate the different situations where learning can take place.


TEACHER
WORLD
PRO-
GRAMME
STUDENT
INSTRUCTIONS
PLAN
MATERIAL

Prepared by Dr. Douglas G. Ellson, Department of Psychology, Indiana University, Bloomington, Indiana, (U.S.A.).

In the first situation illustrated in the model, the student learns from a teacher who performs as a transmitter of knowledge.


WORLD
TEACHER
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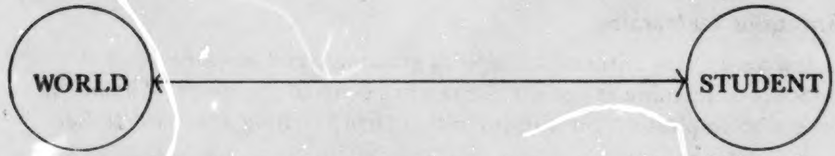
In the second instance, the student learns from the environment itself.


WORLD
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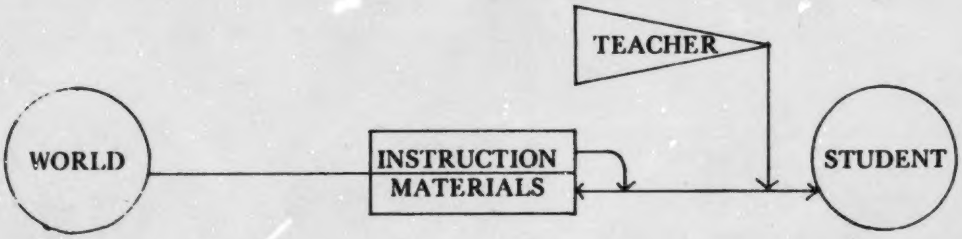
In the third instance, the student learns from materials with the help of either a teacher or the instructions provided in the materials. In other words, learning is controlled by a teacher or by instruction in the forms of sound, printed words or illustrations, etc.


TEACHER
WORLD
INSTRUCTION
MATERIALS
STUDENT

The first kind of learning, that is learning with the teacher as the transmitter of knowledge, is of course the expensive method in that educational systems, particularly those of developing countries, cannot meet the demand for basic primary education.

Per-pupil costs of primary education must be reduced if educational opportunities are to be provided for all who seek primary education. In most cases this cannot be achieved without detriment to other priorities. One possible solution is to develop the means to increase the number of children one teacher can educate, without sacrificing the quality of education.

Project RIT is an attempt to increase learning efficiency through the use of well-prepared learning materials (the third instance in Dr. D. G. Ellson's model) which include printed words with illustrations, programmes on audio tape, etc. Such learning is controlled in most situations by instructions provided in the learning materials themselves. In situations where such control is not very effective, teachers will be employed to control learning.

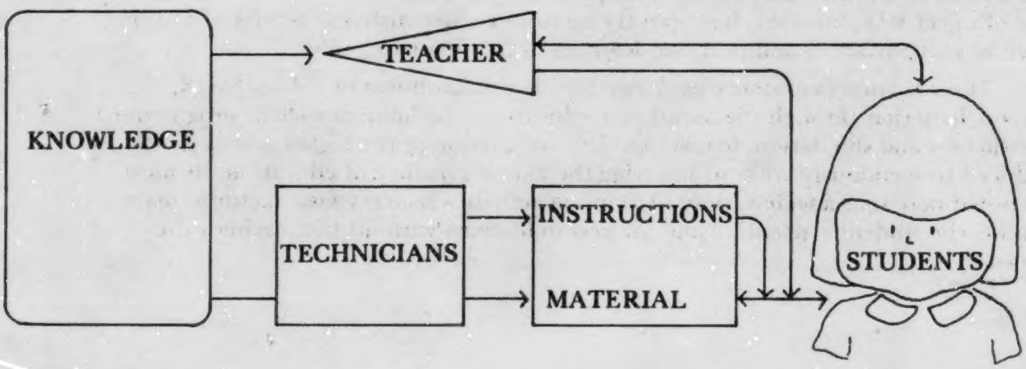
Project RIT represents an alternative approach to the development of a means for effective and efficient mass primary education. Its thesis is that both the time required for student learning and the time that teachers must spend in support of learning can be reduced through the design and scheduling of instruction. If such Reduced Instructional Time can be achieved, more students can be accommodated by educational systems without increasing costs.

Purpose

To develop an economical delivery system for primary education.

RIT learning model

Shown below is the RIT learning model.



It is expected that the student will learn from:

1. The teacher's teaching; and
2. The instructional materials with instructions provided within the material or by the teacher.

RIT components

The components of RIT are teachers, instructional materials, students and schools.

Teacher's roles

1. To teach as other regular teachers do, especially in lower grades in which the students are not equipped with communication skills such as reading and arithmetics.
2. To give instructions on how-to-learn to the students who use self-instructional materials.
3. To manage the learning activities.

Instructional materials

The materials developed at RIT can be classified into two major groups:

1. For teacher's use; and
2. For student's use.

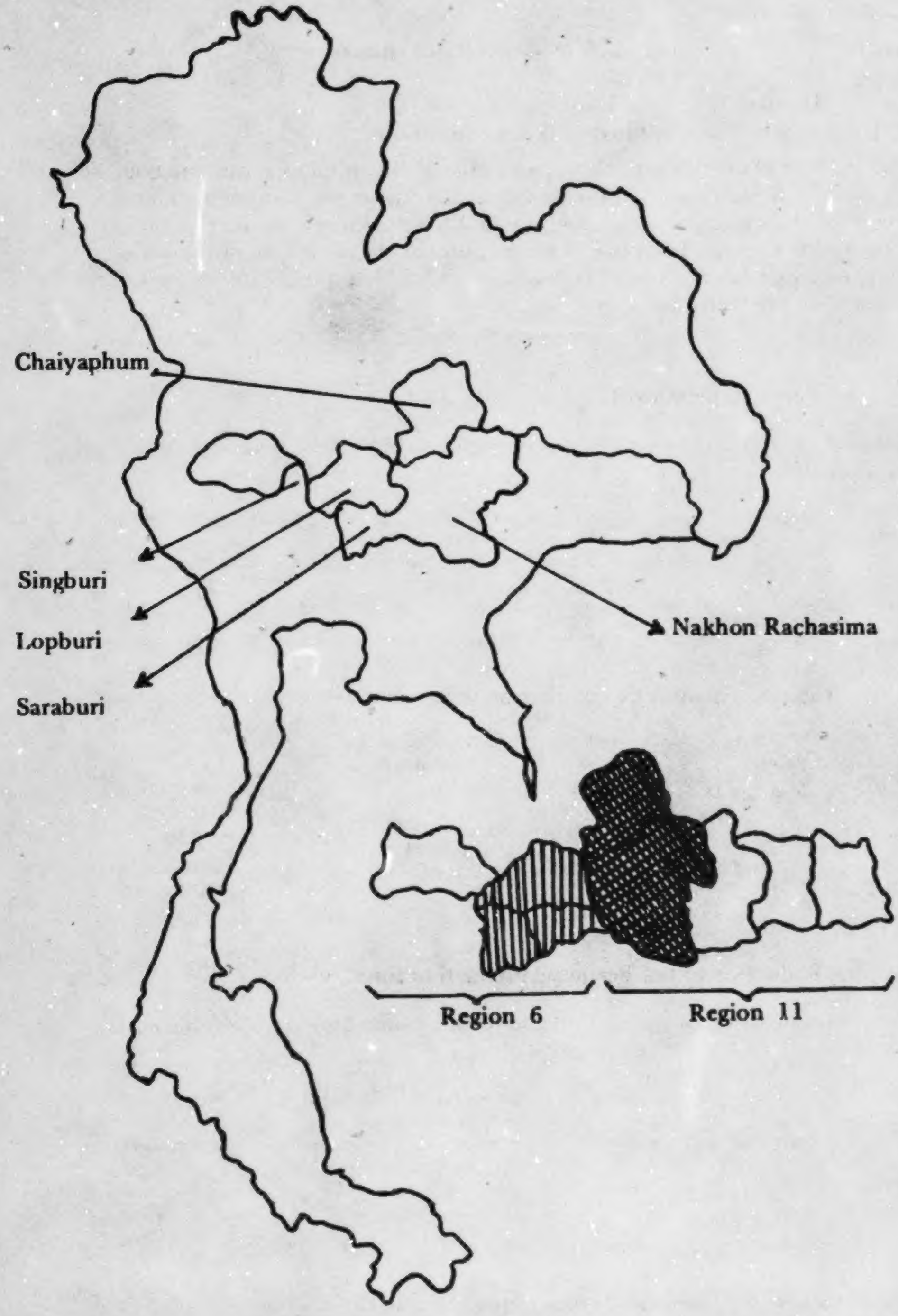
In developing new instructional materials we concentrate on preparing the materials that can be used by the student without the teacher's assistance. This means that self-instructional materials will be used to the extent that the quality of education is not damaged.

Self-learning will result in a reduction of the interaction between the teacher and the students. It is expected that by reducing the teacher/student interaction time, the teacher's costs will be reduced.

It has been found in the lower grades that regular teaching, as done in traditional classes, is necessary to provide communication skills to the students. Therefore, most of the materials being developed for the lower grades are for the teacher's use. Project RIT, however, has been trying to introduce different modes of learning such as group-learning and peer-pair-learning in the first two grades.

There is enough evidence as shown by the results shown in Tables 1 to 8, to conclude that through the use of new educational techniques such as programmed instruction and simulation, teacher/student interaction in the higher grades can be reduced tremendously without lowering the existing quality of education. It must be noted here that a wide variety of learning activities is a very vital factor in maintaining the student's attention and interest in learning without the teacher's presence.

Map of Thailand showing location of five provinces where RIT is used


Chaiyaphum
Singburi
Lopburi
Saraburi
Nakhon Rachasima
Region 6
Region 11

Results of studies using RIT

Shown in the tables below are a few results obtained from primary schools in the provinces of Nakhon Ratchasima, Chaiyaphum, Lopburi, Singburi, and Saraburi

1. Health Education 3

Grade : Pratom 5 (Nakhon Ratchasima)
Topic : Diseases
Type of learning : Knowledge
RIT Approach : Self-instructional comic book

The lesson was divided into three parts each of which takes about one hour of learning time. For each part, self-instructional material in the form of a comic book completed with formative evaluations and feedback is presented to each student. The teacher spends from five to ten minutes at the beginning of the period explaining to pupils how to study the material. After that, pupils are left on their own to work on the comic book.

Results: A. Pupils' achievement

1. Table 1. Criterion based analysis of pupils' achievement (experimental group only)

Assessment	Below 60% scores		60% + scores		Total		80% + scores	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Percent
Pre-Test	53	77.94	15	22.06	68	100	0	0
Post-Test	19	27.94	49	72.06	68	100	14	20.59

Table 2. Analysis by comparison with control group

Group	Pre-test scores		Post-test scores		Adjusted post-test scores		t value
	Mean	S.D.	Mean	S.D.	Adjusted Mean	Adjusted S.D.	(XExp. - XCon.)
Experimental	14.12	4.31	19.71	4.74	19.14	3.25	6.12
Control	12.70	4.16	14.85	5.13	15.49	3.49	Significant at the .01 level

Results: B. Reduction of teacher/pupil interaction time

Table 3. Comparison of instruction and learning time between experimental and control groups

Group	Learning time (periods)	Learning time (minutes)	Instruction time* (minutes)	Reduced I.T. (minutes)	Reduced I.T. (percentage)
Experimental	3	148	14	166	92.2
Control	3	180	180	–	–

* Instruction time (I.T.) means teacher/pupil interaction time.

2. Thai 3

Grade : Pratom 1 (Saraburi)
Topic : Words ending with 'yaw' and 'waw'
Type of learning : Intellectual skill
RIT approach : Partly teacher-directed plus group practice

At the beginning of the period, pupils repeat new words after the teacher. This may go on for about 10 to 15 minutes. Then the teacher explains to the pupils how to participate in different group games for practice of newly learned words. After the pupils have understood the games, they form groups and play those games for word practice. Flip-cards and reading materials are employed during the game. The teacher is free, yet can interrupt and supervise the game to make sure that the activities flow smoothly and profitably. A review of the lesson can either take place at the end of the period or at the beginning of the next period.

Results: A. pupils' achievement

Table 4. Criterion-based analysis of pupils' achievement (experimental group only)

Assessment	Below 60% scores		60% + Scores		Total		80% + Scores	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Pre-test	54	91.53	5	8.47	59	100	1	1.69
Post-test	17	28.81	42	71.19	59	100	19	32.20

Table 5. Analysis by comparison with control group

Group	Pre-test scores		Post-test scores		Adjusted post-test scores		t value
	Mean	S.D.	Mean	S.D.	Adjusted Mean	Adjusted S.D.	(XExp. - XCon.)
Experimental	14.66	7.10	26.66	7.68	25.83	6.16	7.95
Control	12.49	7.45	16.26	8.44	17.17	4.57	Significant at the .01 level

Results: B. Reduction of teacher/pupil interaction time

Table 6. Comparison of instruction and learning time between experimental and control groups

Group*	Learning time (periods)	Learning time (minutes)	Instruction time (minutes)	Reduce I.T. (minutes)	Reduced I.T. (percentage)
Experimental	7	397	231	436	65.37
Control	6.5	667	667	–	–

*For each group, learning and instruction time and periods were averaged out of two classes.

Table 7. Pre-test and post-test means of urban and rural schools in the experimental group

School	Type	N	Pre-test scores Mean	Pre-test scores S.D.	Post-test scores Mean	Post-test scores S.D.
Pichit-wittaya	urban	31	15.68	6.85	28.87	5.51
Ban Nong Chik	rural	28	13.54	7.32	24.21	9.02

Table 8. Comparison of gain percentages for rural and urban experimental classes

School	Type	Percentages of students passing at the 65% level		Gain percentage
		Pre-test	Post-test	
Pichitwittaya	urban	9.68	87.10	77.42
Ban Nong Chik	rural	7.14	53.57	46.43

Learning activities

Under the general term 'programmed instruction' project RIT staff members, most of them primary school teachers, have been able to devise quite a wide variety of creative learning activities. Listed below are short descriptions of some learning activities that have been tried out during the last seven months in different grade levels.

Teacher Directed and Group Practice. The teacher presents the lesson for a few minutes, then divides the class into small groups of four to six students. The members of the group practise using the materials (flip-cards or pictures, or others)provided for them. The leader of the group checks the responses.

Buddy System. The students have flip-cards which have questions and answers on one side and only questions on the other. First, each student studies the questions and answers. Then they pair off and take turns quizzing each other.

Linear Comic Book. The instructional material is an illustrated story with questions and feedback interspersed. The students read the story, answer the questions, check their answers, correct any wrong answers, and then continue with the next part of the story.

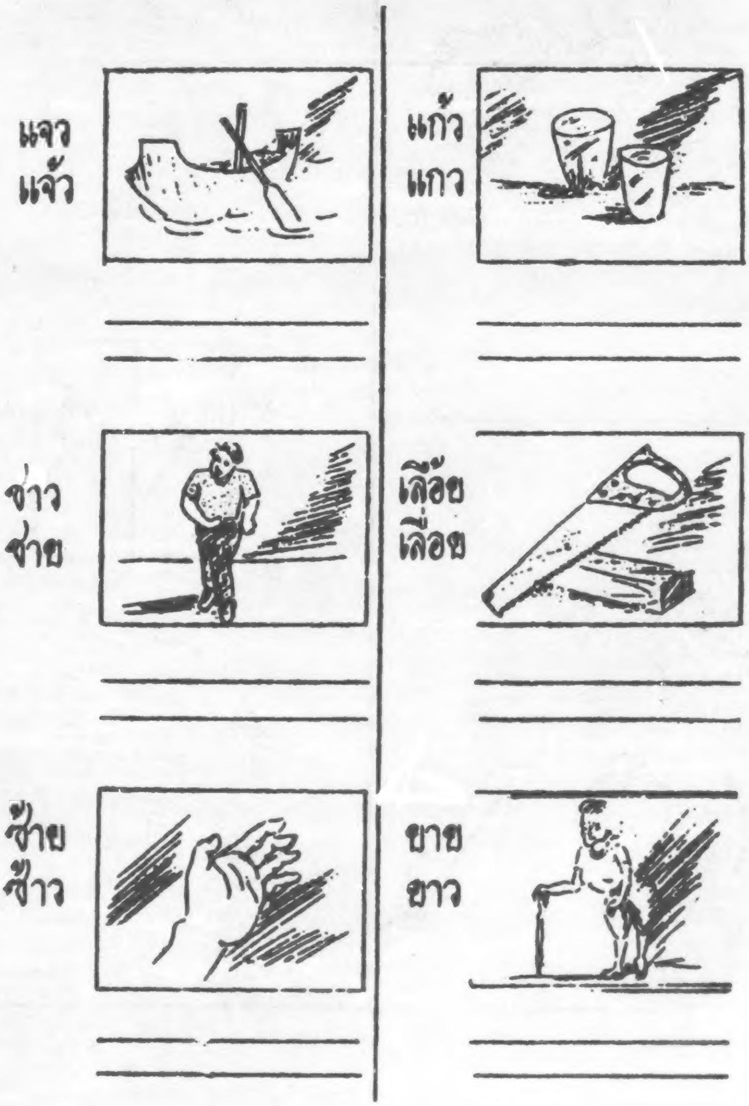
Question Writing. The students read the lesson They then write a specified number of questions about the lesson on flip-cards, with a question on the front and the answer on the back of each flip-card. When they have completed writing their questions and answers, the students drill each other in pairs, first on each student's own questions, and then on his partner's.

Illustrated Linear Programme. Cue-reduction techniques are used. Students first fill in missing letters, then whole words. Immediate feedback is provided after each question. The students go through the programme by themselves at their own pace.

Group Experiment. The content is presented in a linear-programmed textbook. The students do the experiment by following the instruction provided in the programmed text, then they record the result of the experiment.

Demonstration and Individual Practice. The teacher demonstrates what to do to a few students (four or six) in the class. These students are stationed in different positions in the classroom. Each of them has to demonstrate to his own group members, then allow each member to practise.

Samples of RIT instructional materials


แจว
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ข่าย
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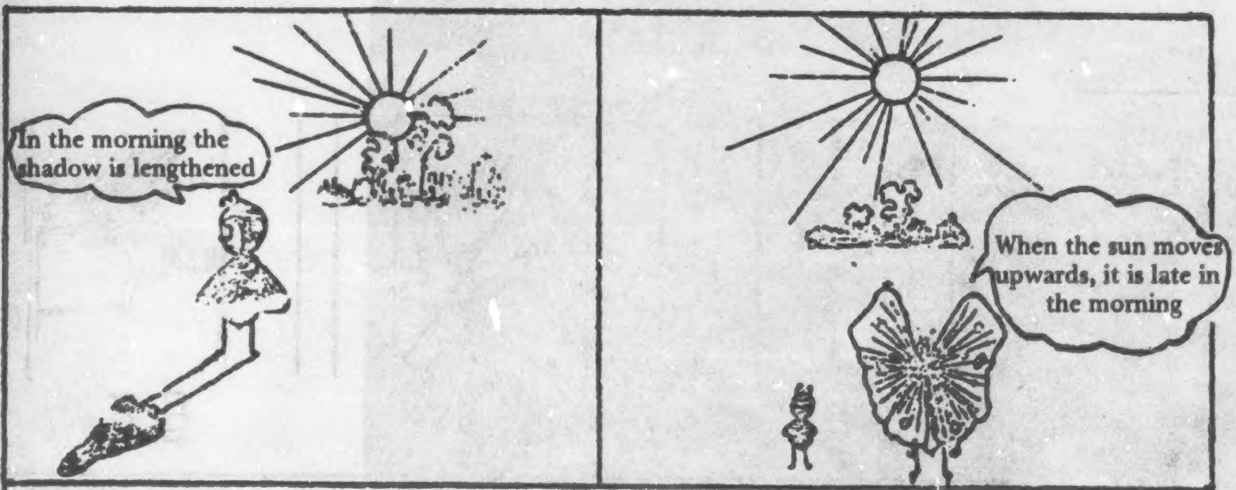
ซ้าว
ยาย
ยาว

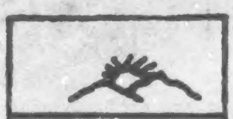
How to distinguish different words by tones and by vowel sounds


In the morning the shadow is lengthened
When the sun moves upwards, it is late in the morning

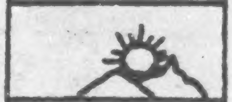
Answer the following question:

5. Which picture shows that it is late in the morning?

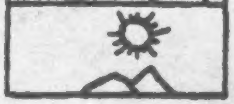
(a) ☐



(b) ☐



(c) ☐



(Answer overleaf)

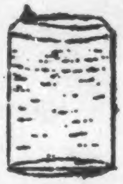
Answer to Question No. 5

☑ (c)

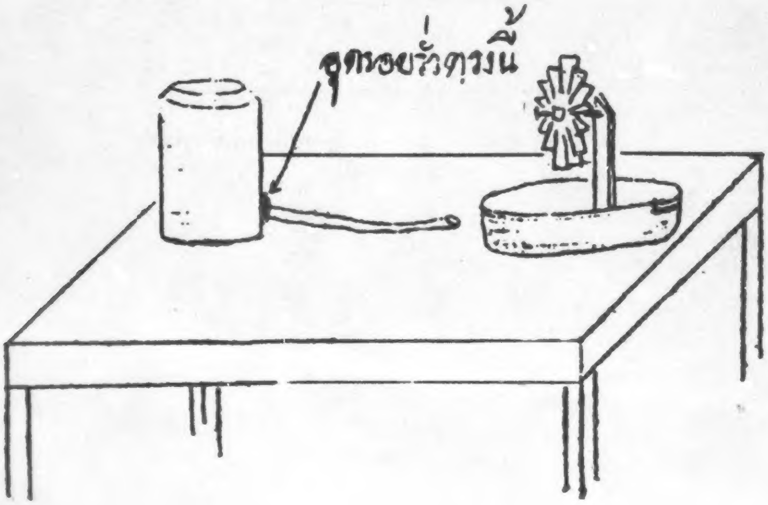
If your answer is correct, smile to yourself.
You are clever indeed.

Experiment

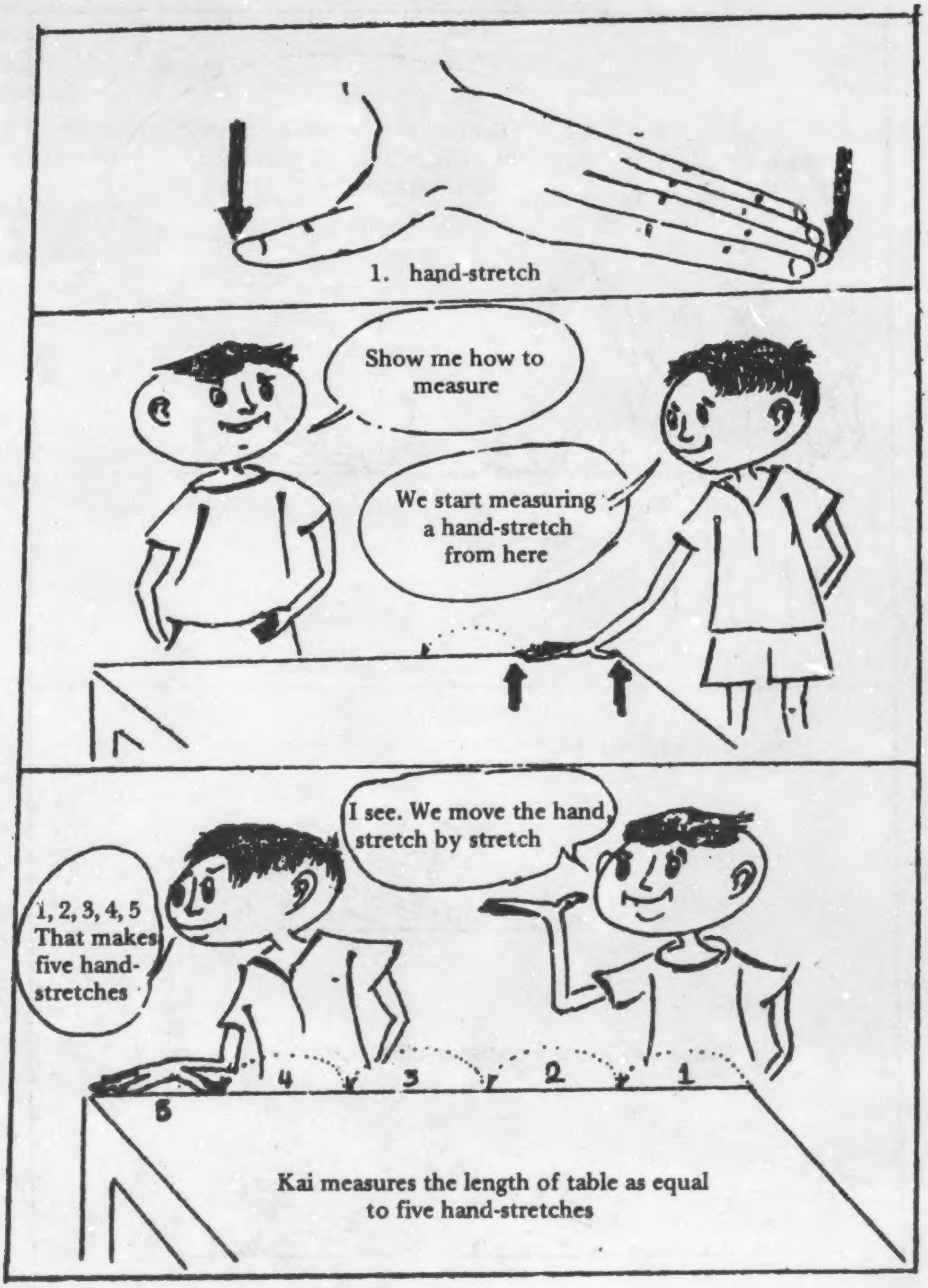
1. A student fills up a can which has not been punched with water provided by the teacher.



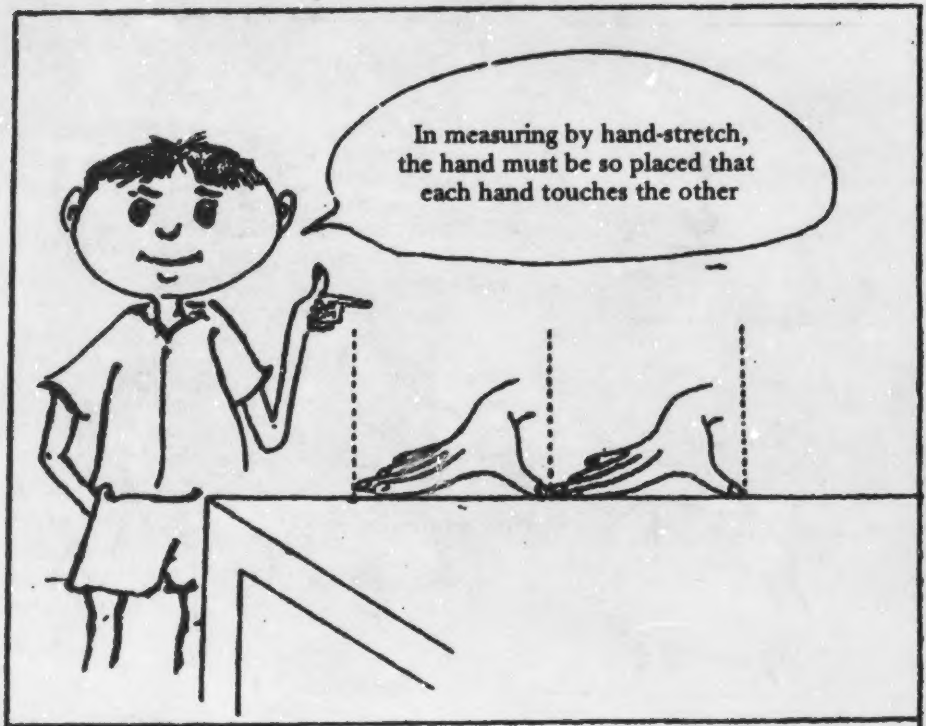
2. Another student prepares the items as shown in the picture. Do not forget to use plasticine to close the hole.


อุดรอยรั่วตรงนี้

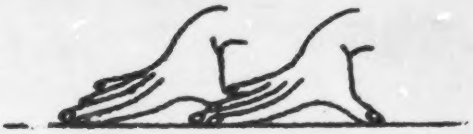
Further experiment


1. hand-stretch
Show me how to measure
We start measuring a hand-stretch from here
I see. We move the hand, stretch by stretch
1, 2, 3, 4, 5 That makes five hand-stretches
5
4
3
2
1

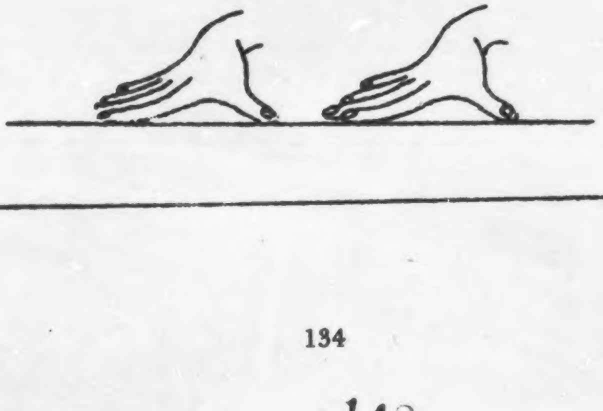
Kai measures the length of table as equal to five hand-stretches


In measuring by hand-stretch, the hand must be so placed that each hand touches the other

This is wrong because the fingers overlap one another.



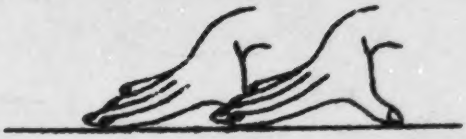
This is also wrong because the hands are too far apart.



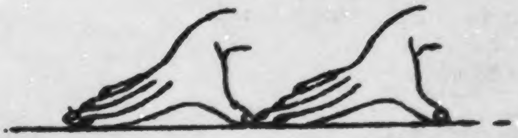
Place a ✓ in front of items which you consider correct

Place a × in front of items which you consider incorrect

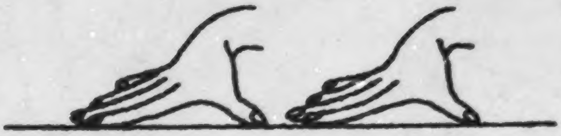
a ( )

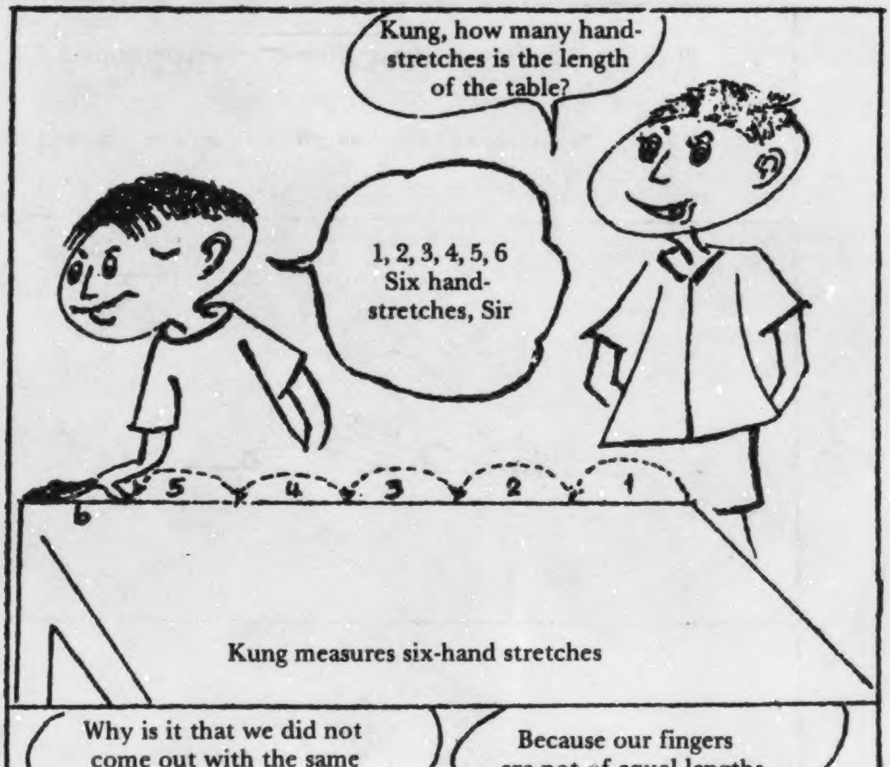


b ( )



c ( )




Kung, how many hand-stretches is the length of the table?
1, 2, 3, 4, 5, 6 Six hand-stretches, Sir
1
2
3
4
5
6
Kung measures six-hand stretches
Why is it that we did not come out with the same number of hand stretches?
Because our fingers are not of equal lengths
Of course !

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The *Asian Programme of Educational Innovation for Development (APEID)*, initiated on the recommendation of the Third Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia (May–June 1971, Singapore) and the authorization of the General Conference of Unesco at its seventeenth session (Paris, 1972), aims at stimulating and encouraging educational innovations linked to the problems of national development in the Asian region.

All projects and activities within the framework of APEID are designed, developed and implemented co-operatively by the participating Member States through their national centres which have been associated by them for this purpose with APEID.

The 18 Member States in Asia and Oceania participating in APEID are: Afghanistan, Australia, Bangladesh, India, Indonesia, Islamic Republic of Iran, Japan, Lao People's Democratic Republic, Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Singapore, Socialist Republic of Viet Nam, Sri Lanka and Thailand.

The Asian Centre of Educational Innovation for Development (ACEID) has been established at the Unesco Regional Office for Education in Asia and Oceania in Bangkok to co-ordinate the activities under APEID and to assist the associated national institutions in carrying them out.

The aims of APEID are:

- to stimulate efforts of the Member States to improve the quality of life of the people through creating and strengthening national capabilities for the development and implementation of innovations in education, both formal and non-formal;
- to encourage the Member States to make all groups (students, teachers, parents, village and community leaders, administrative personnel and policy makers) aware of the need for relevant changes in education (both formal and non-formal) as an essential pre-requisite for the improvement of the quality of life of the people;
- to promote understanding and appreciation of the differences in educational practices and approaches of the Member States, and thereby contribute to international understanding and the creation of a new international economic order.

Unesco Regional Office for Education in Asia and Oceania

APEID PUBLICATIONS RELATED TO TEACHER EDUCATION

Unesco, P.O. Box 1425, Bangkok G.P.O., Bangkok, Thailand

* 1. *Alternative structures and methods in teacher education, 1975*

* 2. *Teacher education and curriculum for development, 1975*

* 3. *Continuing education for teacher educators — advanced-level workshops, 1976*

* 4. *Exploring new directions in teacher education. (Teacher Education 1) 1976*

5. *In-service training of teachers in Sri Lanka (IBE/ACEID series), 1976*
6. *Exploring new directions in teacher education: re-orienting teacher education for rural development (Teacher Education 2) 1977*
7. *Preparing teachers for education in rural development — a handbook, 1977*
8. *Continuing education for teacher educators — advanced-level workshops, 1978*
9. *Continuing education for teacher educators: handbook of suggestions for organizing advanced-level workshops, 1978*
10. *Developing instructional modules for teacher education: a handbook, 1978*
11. *Developing instructional modules for teacher education: selected exemplar modules, 1978*
12. *Continuing education for teacher educators: identified needs and plans for national workshops, 1979*
13. *Policy studies in Asia — the training of educational personnel: India, Nepal, Pakistan, Philippines, Thailand. 1979*
14. *Teacher education: directions of change. 1979*
15. *Universalizing education: new techniques for preparing educational personnel, 1979 (selected innovative experiences)*
16. *Universalizing education: strategies for development and use of instructional materials, 1979*

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* Out of stock